DOCUMENT RESUME

ED 429 881 SO 029 618

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TITLE Adolescents' Drawings: A View of Their Worlds.
PUB DATE 1998-04-00
NOTE 82p.; Paper presented at the Annual Meeting of the American Educational Research Association (San Diego, CA, April 13-17, 1998).
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC04 Plus Postage.
DESCRIPTORS *Adolescent Attitudes; *Adolescents; *Childrens Art; Data Analysis; Elementary Education; *Experience; *Freehand Drawing; Junior High Schools; Middle Schools; Qualitative Research; *Student Reaction; *Visual Perception; World Views
IDENTIFIERS Childrens Drawings; Interpretive Research; Symbolic Representation

ABSTRACT

This qualitative study investigated the medium of drawings as a methodological technique for visual data analysis. The study explored graphical symbols as an additional source for descriptive, interpretive inquiry. The design focused on gaining insight into the perceptions of adolescents' experiences as expressed by the visual narratives in their drawings. Written narratives and participant interviews provided additional information. Classroom teachers participated in teacher/researcher collaboration. Participants, 58 adolescents from two middle schools with contrasting socioeconomic and ethnic neighborhood characteristics, illustrated responses to four topics: self perception, personal achievement, inspiring teachers, and ideal future environments. Following content analytic procedures, the drawings were coded systematically and themes were inferred. Findings revealed that drawings are useful as a singular source of interpretive inquiry when symbols are descriptive and explanatory. When more than one drawing by an individual is examined, relationships between symbols can be interpreted to give a more complete picture of the individual's perceptions. When interpreting beyond what is visible and descriptive, other methodological techniques, such as narratives and interviews, are necessary to clarify ambiguous and vague symbols. Drawings are traditionally used in elementary schools to enhance conceptual understanding. This study showed that strategies for middle school instruction can be augmented with drawings as a technique to display understanding of learner knowledge. Further, as a tool for research in education, drawings can be used to gain insight into teacher instructional practices, learning environments, and the quality of teacher/student rapport. Contains 8 figures and extensive illustrations. (Author/BT)

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ED 429 881

Adolescents' Drawings: A View Of Their Worlds

by

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ABSTRACT

This qualitative study investigated the medium of drawings as a methodological technique for visual data analysis. Other studies in visual research have recognized documentary film and photography as tools for analysis. This study explored graphical symbols as an additional source for descriptive, interpretative inquiry. The design focused on gaining insight into the perceptions of adolescents' experiences as expressed by the visual narratives in their drawings. Written narratives and participant interviews provided additional information. Classroom teachers participated in teacher/researcher collaboration. Fifty-eight adolescents from two middle schools with contrasting socioeconomic and ethnic neighborhood characteristics illustrated responses to four topics: self-perception, personal achievement, inspiring teachers, and ideal future environments. Following content analytic procedures, the drawings were systematically coded and themes were inferred.

Findings revealed that drawings are useful as a singular source of interpretive inquiry when symbols are descriptive and explanatory. When more than one drawing by an individual person is examined, relationships between symbols can be interpreted to give a more complete picture of the individual's perceptions. When interpreting beyond what is visible and descriptive, other methodological techniques, such as written narratives and interviews, are necessary to clarify ambiguous and vague symbols, and to maintain the integrity of the stories told.

Drawings are multifunctional. They can be used as a strategy to translate visual thinking into verbal expression, significant for individuals who have difficulty with written or oral language skills. They are also useful as an interviewing technique for individuals who prefer an advanced organizer to guide their responses. Drawings are traditionally used in elementary schools to enhance conceptual understanding. This study showed that strategies for middle school instruction can be augments with drawings as a technique to display understanding of learner knowledge. Further, as a tool for research in education, drawings can be used to gain insight into teacher instructional practices, learning environments and the quality of teacher/student rapport.

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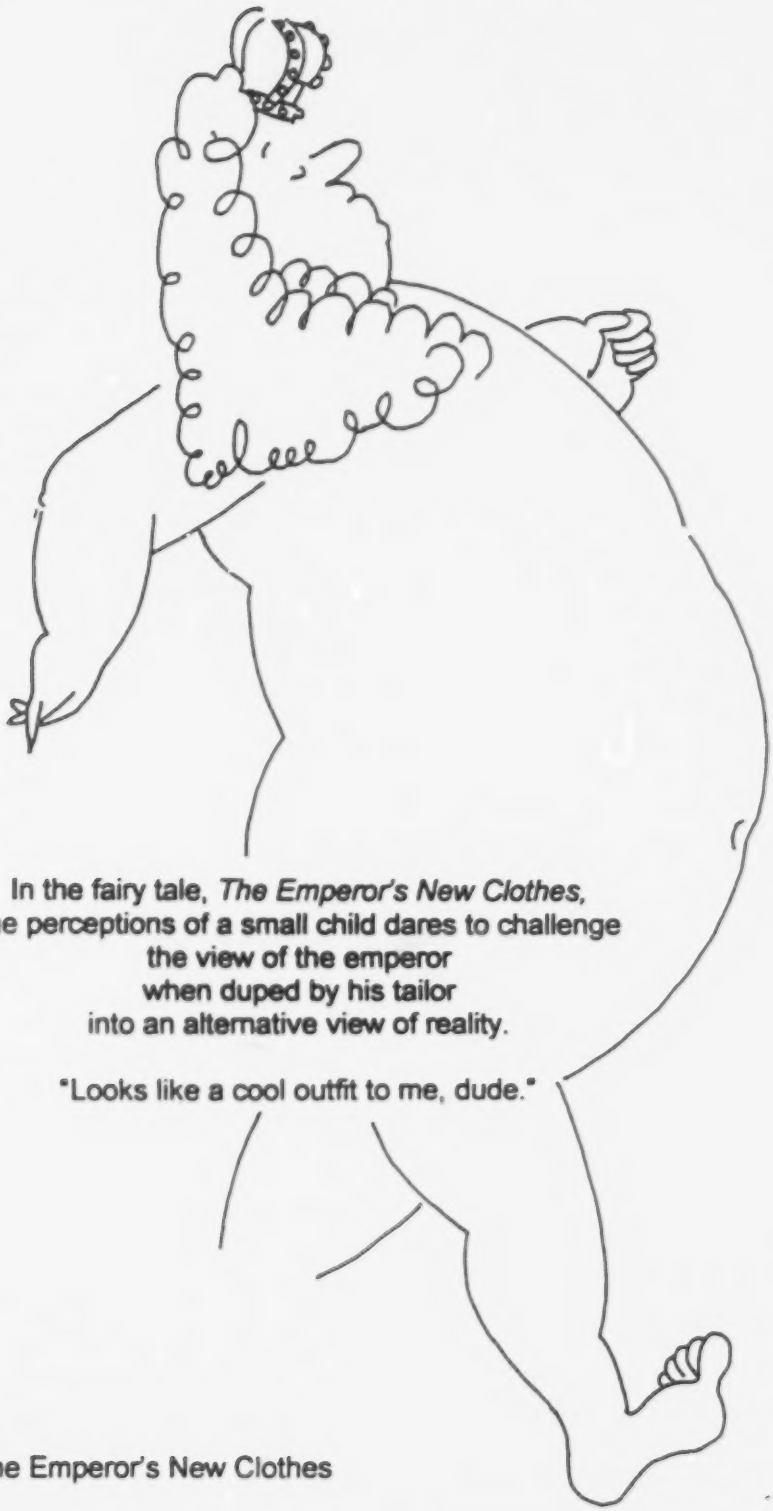
In the fairy tale, *The Emperor's New Clothes,*
the perceptions of a small child dares to challenge
the view of the emperor
when duped by his tailor
into an alternative view of reality.
"Looks like a cool outfit to me, dude."

Illustration 1.2 The Emperor's New Clothes

Adolescents' Drawings: A View Of Their Worlds
(Summary Report [1])

Chapter 1
Introduction

Background

For at least thirty thousand years, drawings have existed as artifacts of culture (Bronowski, 1973; Franck, 1993). And throughout history, drawings have been rendered to record human thoughts, ideas, and emotions. With the development of the fine arts as a genre for artistic expression, drawings were permanently installed as an art form.

A diverse range of examples illustrate this function. Artists such as Michaelangelo, Raphael, da Vinci, Degas and Picasso revealed new visions of human form with their pencil renderings. Poster artists such as Aubrey Beardsley, Erte, and Alphonza Muncha of the Art Nouveau period heightened our awareness of the decorative quality of curvilinear lines and forms. Writers such as D. H. Lawrence, Henry Miller, and Sylvia Plath blended their passions for writing with drawings to 'make transparent' the emotions and thoughts they described in their literary works. Collaborations between writers and visual artists, such as e.e.cummings and Marc Chagall, Gertrude Stein and Clement Hurd, have created new forms of visual/verbal literacy in the book arts. The line drawings of James Thurber, Ralph Steadman, Saul Steinberg, and William Steig follow the lead of 18th century cartoonists,to express the human condition through social-political satire. The early cartoon drawings of Walt Disney drove the developments in film animation. Contemporary rock musicians--John Lenon, Carly Simon, and Mickey Hart--mimicking the work of great classical composers such as Stravinsky, have used the visual rhythms of line drawings to synchronize and explore the rhythms of their sounds. Within the discipline of architecture, architects such as Frank Lloyd Wright, Frank Gehry, Michael Graves, and LeCorbusier, have created finely rendered drawings based on the forms and structure of building, developing an art form for architectural expression. Within the performance arts areas of theatre design, choreography, and costume design, drawings have been used as the tool for conjuring the gestalt experience of a work of art. And the cultural impact of graffiti, tattoo art and pop culture icons has influenced the ways in which humans experience the display of public art. Chicano Muralists, Low Rider Artists, and comic art heroes such as Roy Lichenstein and R. Crumb have raised the quality of comic book art to a recognized genre in the graphic arts.

Further, as an artifact of the material culture of childhood, drawings have been described as children's' explorations within their own worlds to give

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[1] Chapters 1and 2 are in the original form. Chapters 3, 4, and 5 have been edited. Colored drawings are not included. The Addendum does not appear in the dissertation.

expression to their developing knowledge about self and others. Psychologists such as Robert Coles, Howard Gardner, Rhoda Kellogg, and Jean Piaget have enriched our understanding of childhood experience through their investigations of children's drawings. Most importantly these drawings have broadened early childhood educators' appreciation for scribbles which are now valued and recognized as important 'marks on paper'.

Within the discipline of psychiatry, drawings have been used as measurement tools for understanding emotional states of mind and for gaining insight into behavioral maladies. Insights gained have advanced our knowledge about emotional and mental disorders as well as diagnoses for treatment.

In each of these areas, drawings have matured into a functional and aesthetic tradition. However, 20th century advancements in technology have generated the recovery of graphical symbols as primary vehicles for communication. This has emerged as an on-going global process. Technological images in the forms of holograms, digitized graphics, computer animation, virtual reality constructions have altered the ways in which humans perceive, experience, and interpret their realities.

The Research Question

An Investigation of visual phenomena.

The purpose of this qualitative study was to investigate the medium of drawings as a methodological technique for visual data analysis. The design of the study was focused on interpreting the perceptions of adolescents' worlds as expressed by the visual narratives in their drawings. I examined drawings as a rich source of narrative interpretive description. This required a view of drawings that paid attention to the essential nature of graphical symbols.. I likened drawings to allegories, representing "simultaneously the individual, social, cultural, and personally historical" (Croquet and Crouter, 1995, p. 262).

This study looked at adolescent life "with the kinds of lenses that critics apply to works of art--to movies, to dance, to the theater," (Eisner, 1991, p.90). My goal was to display and analyze the phenomena with a richness made possible by the nuances of detail. From this perspective, I posed and investigated the following research questions:

1. What can drawings contribute to research in visual data analysis? What are the strengths and weaknesses of this method?
2. Can researchers use the content of adolescents' drawings to gain insight into adolescents' experiences?

The generation of these questions has been influenced by an investigative bias. My personal knowledge of the visual arts as well as my professional experience has shaped the character of this study.

Impact of Researcher's Knowledge

> It is impossible to talk of the nature of reality with any sense of certainty because we can never know reality independent of the cognitive structures that influence our perceptions. (Donmoyer, 1990, p. 181)

Unlike many people whose knowledge is acquired through verbal symbols, I am grounded in a rich history and experience with graphical symbols. My knowledge of this subject has been organized by extensive study of pictorial images which has permitted me to assemble visual narratives for interpreting reality. My perceptions of the world have also been influenced by my learning style and augmented by my training and experience as artist, art educator and special education teacher. As a former architect, my perceptions of graphical symbols have been highly refined by training in visual/spatial thinking. This eclectic, enhanced personal knowledge drives this investigative work (Colbert, 1990; Goodman, 1978; Polyani, 1958).

The impact of researcher's knowledge is especially critical when experience is the incentive for the research questions. My role as special education teacher has been formative to the direction of the study. As teacher of the alternative learner, I have used drawings as an instructional tool for nonverbal, communication-disordered, and emotionally different learners (Coles, 1992; Dalke, 1984). Their preferred learning style-- visual/spatial-- and their preference for visual descriptions rather than verbal, served to raise questions about what could be learned from drawings to inform teacher education practices. How might drawings inform perceptions unattainable by any other mode of expression? Whose perceptions could best be explored through drawings?

Led by these questions, I identified adolescence as the developmental period of interest for this research. Searching my personal history brought to light my own difficulties with home, school and community at the onset of adolescence and the unresolved tensions of my teen years. My own knowledge mirrored research characterizations of early adolescence as scenarios of battling issues such as: physical growth and change coupled with emotional immaturity, personal image and evolving self-identity; independence/dependency, peer group acceptance and rejection; and diverse experimental behaviors patrolled by societal norms (Eder, 1995). My determination to explore this adolescent experience through drawings is also driven by my mistrust of the adultcentric approach of prior research, which has distorted, undervalued, and negated views, abilities and social sensitivities of children's development (Hubbard, 1989).

Significance

The popular model of adolescence in America is one perceived as an unavoidable, predictable phenomena in which puberty opens a Pandora's box of puzzlements, ambiguities, and wonderments (Crockett and Crouter, 1995; Garcia, Kilgore, Rodriques, and Thomas, 1995; Kellmer, 1970; O'Thearling and Bickley-

Green, 1996; Walsh, 1990; Wasserstein, 1995; Weissbourd, 1996). Experts' reactions to adolescents' experiences are lodged in assumptions, speculations and theoretical notions that diminish and reduce the personal expression of individual voice (Garcia, Kilgore, Rodriquez, and Thomas, 1995). Recognized as a critical stage in the human growth and development cycle, the culture of adolescents reflects a set of values, beliefs, and patterns of behavior that is camouflaged in the numerical indices of hard data (Eder, 1995). This research aimed to capture a sample of adolescents' perceptions through the medium of drawings. This study viewed life, education and experience as interwoven elements (Dewey, 1934; 1974). The internal and external conditions of experience alter, modify, and construct one's personal awareness of life.

In this study, I explored drawings to bring attention to the qualities which revealed adolescents' views of their experiences. Supported by case study research that has focused on authentic voice to gain insight into the distinctive, personal and unique viewpoint (Barone, 1983; Donmoyer, 1990; Donmoyer & Donmoyer, 1995; Strong & Robinson, 1995) this study investigated drawings as the visual expression of personal voice. This research also examined what drawings can contribute to the repertoire of techniques for interpretive inquiry. Research in the visual arts and visual sociology has established photography and documentary film as reliable strategies for data collection (Criticos and Quinlan, 1991; Grady, 1991; Mead and Bateson, 1942).

Chapter 2
Literature Review

Graphic Expression as an Alternative Form of Knowing

Historically, drawings have been used as tools for a number of psychological inquiries. A diverse range of research studies have been conducted: to gain evidence of skills in visual perception (Arnheim, 1969; Broudy, 1987; Edwards 1979; Schaefer-Simmern, 1970); to correlate maturational development with artistic competence (Cox, 1991; Feinburg, 1987; Gardner, 1980; Goodnow, 1977; Gruber and Voneche, 1977; Kellogg, 1969; Linstrom, 1970; Schaefer-Simmerin, 1970); to associate visual images with emotional states of mind (Kellogg, 1969; Kellogg and O'Dell, 1967; Winston, Kenyon, Stewardson and Lepine, 1995); to identify traits of artistic giftedness (Carroll, 1987; Clark, 1989; Torrance, 1986; Wilson and Wilson, 1976); to compare cultural patterns of meaning making (Beyer and Nodine, 1985; Brittain, 1985; Wilson, 1985; Wilson and Wilson, 1987); to connect the expression of visual symbols with a form of symbolic play experience (Lowenfeld, 1935; Piaget and Inhelder, 1969); to give evidence to the need for expression of feelings independent of conceptual thought or perceptual images (Read, 1958); to assist in treatment of behavior disorders (Virshup, 1976; Walsh, 1990); and to build self esteem and empathy in

at-risk youth through opportunity for expression (Covington, 1996; O'Thearling and Bickley-Green, 1996).

Psychological studies have used content analysis to analyze drawings. Drawings have been used as nonverbal communication tools to provide comparisons between genders and among children of different socio-economic background (Berelson, 1971). Lowenfeld (1939, 1947) used content analysis of children's drawings to construct developmental norms as well as to provide data for psychotherapy. Harris (1963) analyzed children's drawings as measures of intellectual maturity according to the Goodenough Draw-a-Man test. The Goodenough test was also used by Dennis (1966) to identify social values in children's drawings.

Research in visual thinking (Arnheim, 1969; Gardner, 1983; McKim, 1980) has underscored the value of drawings as an expression of cognition. Hurwitz (1983) reports that these students--visual thinkers whose facility with visual images match the ease of verbal thinkers in the articulation of words--draw the way most people talk, because through drawing they maintain a dialogue with the world. "When I draw, I try with all my might to concentrate, and that's what I do, because nothing is taking my attention away, and I don't have to speak'" (Coles, 1992, p 7). Through this visual sensibility they " visualize events and forms that have not previously existed" (Carroll, 1987, p 141). Coles argues that "What is significant in the life of the child comes across again and again in the drawings or paintings that child makes - more so, in my experience, than is the case with much of what passes for [verbal] 'communication' " (p.7). Other research has viewed drawings as a means of gaining insight into "the natural development of that mental faculty of man [sic] that enables him [sic] spontaneously to create interfunctional relationships of form in the realm of pure vision" (Schaeffer-Simmerin, 1970, p.15). Read (1958) argues against this natural proclivity in drawing. He suggests, instead, that

> a child's graphic activity is a specialized medium of communication with its own characteristics and laws. It is not determined by canons of objective visual realism, but by the pressure of inner subjective feeling or sensation. (p. 135)

This discrepancy in thought has resulted in a multi-dimensional approach to a range of explanations which collectively emphasize drawings as an expression of cognition.

Contemporary educators and psychologists who have explored the nature of drawings, explicitly recognize drawings as a non-discursive form of knowledge (Arnheim, 1969; Donmoyer, 1990; Eisner, 1993; Langer, 1956) and as an alternative way of world-making (Goldberg, 1992; Goodman, 1978; Greene, 1990, 1991; John-Steiner, 1987). This perspective is broadened by Polyani (1958) who describes the schema of thoughts and ideas created in the drawer's mind as the

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tacit patterns of cultural and social knowledge embodied within the narrative of visual images.

Previously introduced in Chapter One on the discussion of the recovery of graphical symbols by technology, media communications has focused on the ubiquitous presence of visually generated messages that confronts and persuades contemporary society (Johnson, 1993; McLuhan 1964, Postman 1992, Spring 1992). The premise of this view is that visual stimulation creates, alters, and changes viewpoints, values, and the ways in which individuals experience their worlds.

As a consequence of this barrage of visual images, graphic expression has become a primary mode for knowing and making meaning of our worlds. "Visual education today is too often an erratic and spasmodic affair of which the greater part takes place outside the classroom" (Morgan and Welton, 1986, p. 3). Since schooling is a place where individuals acquire skills to shape their lives, research has begun to explore visual language as a component of the curriculum. In the last several decades researchers have focused on the use of drawings as tools for literacy development, establishing a relationship between visual/verbal symbol systems (Dyson, 1989; Ernst, 1994; Harste, Short and Burke, 1988; Hubbard, 1989; Johnson, 1993, Olshansky, 1995; Siegal, 1984).

> Drawing is not just for children who can't write fluently, and creating pictures is not just part of rehearsal for real writing. Images at any age are part of the serious business of making meaning-partners with words for communicating our inner designs. (Hubbard, 1989, p.157)

The research of Alejandro (1994) argues for the visual dependence of writing. "I am convinced of the parallels between teaching children how to draw and teaching them how to read and write" (p. 13). Alejandro asserts that the ability to see and to interpret data comes from the canvas as well as the symbols from the world and the page.

The tie between visual and verbal symbols lies in the model of transmediation (Siegal, 1984)--taking meaning from one communication system and recasting it in another system. This conceptual model maintains that recasting meanings in a visual medium allows for the generation of new meanings and the achievement of insights as a result of shifting media. Dyson (1988, 1989) argues that transmediation offers learners important scaffolding devices as well as vehicles for building and sharing meanings. For research, the model offers the potential to broaden expertise in descriptive interpretation across multiple perspectives of realities.

Other research has pointed to drawings as an instructional strategy to encourage writing, reading, oral expression, and assessment of student acquired knowledge (Dalke, 1984; Dyson, 1988; Eisner, 1976; Ernst, 1994; Gardner, 1983; Goldberg, 1992; Gross, 1983; Harste et al, 1988; Kantner, 1993; Siegal, 1984; Williams, 1977). More recently, academic journals such as *Annals of Tourism*

Research (Gamradt, 1995), *Educational Researcher* (Oldfather and West, 1994), *Evaluation Practice* (Hurworth and Sweeney, 1995), *Visual Anthropology, Visual Arts Research* (Gamradt and Staples, 1994), and *Visual Sociology* (Criticos and Quinlan, 1991; Grady, 1991) have published studies focusing on non-discursive forms of knowing such as photographs, film, video, and drawings as independent investigative strategies. The purpose of this work is not to provide evidence nor to vivify the description and interpretation of narrative text (Gould, 1981), but to enrich and deepen our understanding of culture through an immediate vision of cultural life. The intent is to focus on these forms as primary investigative tools (Ball and Smith,1992; Hurworth and Sweeney, 1995).

Research that has used drawings as tools for "projection"--to gain insight into children's visions of their ideal worlds-- include the work of Getzels (1974) on images of the classroom, Moore (1974) on outdoor environments, Sanoff and Barbour (1974) on archetypal schools and Taylor (1993a; 1993b) on students' conceptions of learning environments.

Building on this research, a new framework for drawings has developed. Goodnow presents children's drawings as "new ways of seeing, new ways of understanding, new ways of verifying and testing one's ideas" (1977, p. 9). Clark and Zimmerman (1987), Eisner (1967), and Wilson and Wilson (1987) have focused their attention on children's drawings from the children's perspective.

This emerging framework for understanding children's artwork may reflect the postmodern perspective. Postmodernism has argued for a deconstruction of established modes of traditional inquiry (Lather, 1991). The movement has given attention to the plurality of voice and to the interpretations provided by informant voice (Garcia, Kilgore, Rodriquez and Thomas, 1995; Greene, 1990). The research of Ball and Smith (1992), Colbert (1990); Gamradt and Staples (1994), Hubbard (1989), and Wilson and Wilson (1987) has enhanced this perspective by celebrating children's drawings as a pathway to understanding.

The research initiated by Gardner (1980) on multiple intelligences has provided a means for other educational researchers to develop teaching strategies that focus on drawings as a technique for developing visual intelligence. Armstrong (1994) suggests "idea sketching...to help students articulate their understanding of subject matter" and to "explore an idea in greater depth" (p. 73). Armstrong refers to McKim's (1980) work on the relationship between visual thinking and graphic expression. "Visual thinkers can largely avoid the language rut that holds thinking to a fixed viewpoint and a limited set of mental operations" (p.130). Additionally, "every graphic expression embodies a viewpoint, a single way of looking at reality..." (p.132). The overlap between visual thinking and graphic expression is termed graphic ideation, or the construction of ideas as a result of experiences in visual thinking. Drawings are the embodiment of visual thought.

From the research of Crockett & Crouter (1995) the contexts in which adolescents develop gives credence to the interrelationship between school, home and community.

> Key contexts such as the family, school, peer group, and local neighborhood help shape the actual (and perceived) opportunities available to developing adolescents, as well as the risks to which they are exposed. These settings are embedded, in turn, in broad, social, cultural, and historical contexts that shape, in part, the resources and opportunities available in those more proximal settings. (p. 6)

These researchers further assert that the "characteristics of the person, the resources and opportunities in the social environment, and the patterns of interaction that develop between person and context over time" (p. 9) define and constrain adolescents' view of their developing realities. Drawings, therefore, can be examined as relevant experiences of adolescent development (Phelan, Davidson, and Cao, 1991). Ultimately these experiences, or depiction of social scenes, are representations of acquired learning.

> Learning is as much about the acquisition of knowledge as it is about the production of social practices which provide students with a sense of identity, self-worth, value, and place. (Bassey, 1996, p. 42)

The importance of examining the nature of the interdependence between adolescent behaviors and environments in which they explore "Who am I?" (Walsh, 1990; Weissbourd, 1996), is fundamental to the issues investigated in this study.

The paucity of research on drawings as vehicles to gain insight into school culture has drawn the attention of Boston College's Center for the Study of Testing, Evaluation, and Educational Policy, which is immersed in a high profile public school reform initiative. The study utilizes drawings, among other exercises, to get at the organization of classroom life from the perspective of students by asking the question, "Think about the teachers and the kinds of things you do in your classrooms...Draw a picture of one of your teachers working in his or her classroom" (Olson, 1995, p. 18). The aims of this research include giving schools powerful tools to evaluate themselves. The article claims that prior research using this method has not been attempted or published in the research literature. Research by Gamradt and Staples (1995) contradicts this claim and presents evidence for a growing body of literature in this field of inquiry.

Emerging theories of learning such as those suggested by multiple intelligences (Armstrong, 1994; Gardner, 1983, Kantner, 1993), brain-based learning (Caine and Caine, 1995; Sylwester, 1993/94, 1995), and learning modalities (Guild, 1994; Hall, 1976, 1989) account for a particular style of learning which may be at odds with teacher instructional style (that is, modes of presenting information), resulting in a communication gap between teacher expectation and student response.

> Learning style is that consistent pattern of behavior and performance by which an individual approaches educational experiences. It is the composite of characteristic cognitive, affective, and physiological behaviors that serve as relatively stable indicators of how a learner perceives, interacts with, responds to the learning environment. It is formed in the deep structure of neural organization and personality that molds and is molded by human development and the cultural experiences of home, school, and society. (Bennett, 1986, p. 140)

This notion of learning style gives attention to the potential value of drawings to express personal knowledge deeply embedded in the cognitive structure of the personality (Hall, 1976; 1989). Drawings, for those predisposed to this medium of communication, organize, clarify and give meaning to conceptual knowledge freely expressed in this mode of representation (Colbert, 1990; Collins and Chandler, 1993; Dalke, 1984).

Children's voices have been captured in studies that organize their viewpoints in oral narratives and written prose (Dyson, 1989; Lincoln, 1995; Strong , Silver and Robins, 1995; Wasserstein, 1995). Viewpoints expressed by these children in pictorial form remain unexplored due to limited understanding of graphical symbols; a lack of valuing drawings for offering insight into personal values, beliefs, and perceptions of realities, and a paucity of research about the meanings children assign to drawings (Broudy, 1987; Colbert, 1990; Edwards, 1979; Goldberg, 1992; Grady, 1991; Hubbard, 1989). This gap in the body of literature points to a need to explore drawings to further understand adolescent culture.

Theory

Several theoretical notions guide the inquiry: symbolic interactionism seeks to describe the meanings in the graphical symbols; the zone of proximal development establishes a viewpoint for understanding the influences of peers and adults to the development of built realities; and multiple intelligences offers the window to view the characteristics of inter/intrapersonal intelligences represented in the drawings.

For this study, I have restricted my view of culture to "a system of meaningful symbols" (Spradley, 1979, p. 6). Drawings are viewed as the symbolic expression of adolescents' views. This offers the opportunity to investigate symbolic interactionism as the theoretical base for this inquiry. This research tradition seeks to explain the meanings and interactions expressed in human behavior (Blumer, 1969; Denzin 1989). Emphasis is not on the behavior itself but on the meanings assigned to that behavior. Three major premises of this theory are significant to this investigation (Blumer, 1969):

1. "human beings act toward things on the basis of the meanings that the things have for them" (Ibid, p.2).
2. "meaning of such things is derived from, or arises out of the social interaction that one has with one's fellows (ibid., p.2).
3. meanings are handled in, and modified through, an interpretive process used by the person dealing with the things he encounters" (ibid., p.2).

Implications regarding the interrelationship between behaviors of individuals with others in the social context of upbringing and learning are found in Vygotsky's theoretical ideas about the zone of proximal development (Davydov, 1995). In essence, Vygotsky asserts that the independent ways in which adolescents reach their potential level of development is "determined under adult guidance or in collaboration with more capable peers" (Vygotysky, 1978, p. 88). This theory presupposes that "human learning is of social nature in which children grow into the intellectual life of those around them" (Ibid, p. 88).

The personal knowledge that children acquire is mediated through the senses (Arnheim, 1969). Guided by Polyani's (1958) concept of personal knowledge as formed of experience-- "man knows more than he can tell," this study views visual symbols as an expression of an individual's knowledge to create a personal vision of his/her thoughts and ideas. Gardner's theory of multiple intelligences (1983) draws attention to the many ways that the sensory channels operate to develop a cognitive structure of knowledge of self, others and the world. Not only do these intelligences require opportunities to operate and achieve competency levels, but the inter-intrapersonal intelligences are foundational to the understanding of a private self and a self who communicates with others. The perceptions assembled by these inter/intra personal cognitive schema are the areas that this research seeks to describe.

Chapter 3
Design and Methodology

The Design of the Study

The Settings

Two middle schools in the Albuquerque Public Schools District were the sites for the investigation. The goal for conducting research at two sites in different neighborhoods was to maximize the potential to collect a sample of students whose experiences were drawn from a broad range of social contexts. The differences in social contexts shaped the kinds of inferences I could make about the perceptions of the adolescent population (Sanders, Murph, and Eng, 1976).

The Participants

Fifty-six 7th and 8th grade students participated in this study. Of the 34 participating at South Heights, 7 were from an arts elective class, 3 were from a gifted social studies, and 24 were from a general education language arts and literature block. At North Heights, 22 participants were from a general education, language arts and literature block. The students ranged in age from 11-14.

Teacher Collaborators

Classroom teachers acted as the key collaborators for this study. The conditions that determined my selection of the teachers included observation of instructional approaches in the classroom; a shared teacher/researcher philosophy; and commitment to the research. Several factors determined teacher participation: their support of this research; their investment in exposing their students to a broad range of learning experiences; and their willingness to view drawings as a tool for attaining competencies in core curriculum objectives set by the Albuquerque Public Schools District.

I viewed the teachers' rapport with their students as critical to the outcome of this study. Specifically, the classroom tone they established with their students was strategic to gaining meaningful responses. I regarded their expressed enthusiasm towards the project as the incentive for the students' subsequent participation and continued involvement in the study.

Drawing Procedure

Participants responded to four drawing tasks. Two of these tasks focused on the behavioral traits of inter/intra-personal intelligences particular to the development of self during adolescence (Gardner, 1983): self-perception (Heyman, 1990; Kahne 1996; O'Thearling and Bickley-Green, 1996); and personal achievement (Dewey, 1974; Olshansky, 1994; Wasserstein, 1995). The third task focused on inspirational teachers--role models who inspire adolescents to learn (Bassey, 1996; Covington, 1996; Collopy & Green, 1995; Dahl, 1995; Gardner and Hatch, 1989; Greene, 1986; Noddings, 1992; Wlodkowski and Ginsberg, 1995). The fourth topic addressed adolescents' perceptions of their future ideal environment to discover underlying values and beliefs (Phelan et al 1991; Roe, 1983; Strong et al, 1995; Walsh, 1990; Weissbourd, 1996).

As a way of introducing the project to the students (and to encourage their participation), the teacher conducted a warm-up exercise which consisted of the following task, "Draw a picture of yourself when you wake up in the morning." This exercise introduced the participants to the format of the drawing sheet which was divided into three areas for narrative description: the picture, the title and written comments. It also provided the participants with a preview of the expectations for the subsequent drawing tasks.

Production of the drawings occurred in the classroom on four consecutive days. These tasks are described in Figure 1. I estimated a time period of 20 minutes for the completion of each drawing task. I gave each class colored pencils and markers, but students' use of these items was optional. Fifty-six sets of drawings were produced

Figure 1. Nature of the Drawing Tasks

Day 1
Topic A: Self-Perception
Drawing Task: Draw a picture of yourself playing, working, or learning.

Day 2
Topic B: Personal Achievement
Drawing Task: Draw a picture of yourself doing something that makes you feel successful.

Day 3:
Topic C: Inspirational Teachers
Drawing Task: Draw a picture of a teacher who motivates you in his/her classroom at your school.

Day 4:
Topic D: Ideal Future Environments
Drawing Task: Project yourself into the future. Draw a picture of your ideal environment.

After each group of participants completed the drawings, I conducted a debriefing in the classroom, reassuring the participants of the confidentiality of their drawings. I also talked with them about the follow-up interviews. I discussed the purpose of the interview and quoted Spradley's (1979) explanation of the experience to reassure them of my intent.

> I want to understand the world from your point of view.
> I want to know what you know in the way you know it.
> I want to understand the meaning of your experience,
> to walk in your shoes to feel things as you feel them to
> explain things as you explain them. (p. 34)

I answered questions concerning where the interviews would take place and how long they would last. I also explained that this was voluntary and if students did not want participate, they could do so without penalty.

Interviews

Procedure.

Following the debriefing, I prepared for the interviews by reviewing each set of drawings and formulating questions for each participant that either might stimulate discussion or clarify any ambiguous images I could not "read" at this preliminary stage of data analysis. The questions I asked included all categories of descriptive questions identified by Spradley (1979) I also asked two other questions: "Would you change or add anything to the picture? If yes, what would

you do and what did you learn from your drawings?" I asked these questions of participants whose responses I viewed as more reflective, introspective and detailed than others in the group. All participants volunteered to be interviewed. Illustrations 2-4 represent my perception of the interview experience at the respective school sites.

Candy, Fieldnotes, and Non-Verbal Signs.

I came to these sites with a fieldnote form I had to format the interviews and to jog any particulars when listening to the audiotape of the interviews. As I conducted the interviews, I found myself unwilling to distance myself from the richness of the immediate experience of voice and non-verbal gestures and decided against taking fieldnotes. Disengaging from the act of writing, I felt free to observe, listen, and fully attend to my participants. I stored these observations in memory as a visual composite of the interview experience. Rather than the formal questions I had prepared to direct and focus the interviews, I discovered that the natural flow of the unpretentious dialogue with these participants structured the interviews. During my drive home from each interview session, I tape-recorded my reflections about the interview experience.

At the completion of the participant interviews, I conducted an in-depth audiotaped interview with each teacher. Though I intended to follow a specific line of questioning unanticipated feedback from the teachers raised other questions relevant to understanding the drawings.

Method of Analysis

Introduction

I regarded the analysis as a process for discovering, describing and interpreting the visual symbols. The objectives were (a) to add to an understanding of visual data in particular, and add to an understanding of adolescent culture in general; (b) to gain insight from the meanings disclosed by the visual narratives; and (c) to discern the value of information presented by visual symbols not accessible to verbal discourse.

Content Analysis

I used the research methodology of content analysis (Krippendorff, 1980; Weber 1985) to analyze the data. I analyzed the content of the visual narratives--objects, persons, actions, places and events--to determine the frequency of repeated occurrences for establishing patterns and inferring themes. For this study, I defined content as a body of meanings available through visual symbols and regarded it as a "springboard" to the intentions of the communicator (Berelson, 1952).

Illustration 2. Researcher's drawing of the interview experience

Interviewing at South Heights Mid School

Illustration 3. Researcher's drawing of the interview experience

Interviewing At North Heights Mid School

Illustration 4. Researcher's drawing of the interview experience

Interviewing At South Heights Mid School

I set up the analysis to examine the likelihood of the following: (a) the potential to make inferences between narrators' intent and content [1], (b) the potential to correlate meanings assigned by the researcher with meanings intended by the narrator [2], and (c) the potential to show that visual symbols can be treated as conventions of cultural life [3].

The Coding Taxonomy

Following content analytic procedures, I created a coding taxonomy for analyzing the data. In building the taxonomy, I sought to develop a coding structure that captured the full range of students' responses. This resulted in a taxonomic structure which (a) maximized disclosure of descriptive and inferentially meaningful data and (b) provided a comprehensive accounting system for coding the emergent data.

Analysis Of The Visual Symbols

Using the coding taxonomy, I examined the visual symbols to establish patterns across categories which gave me information about adolescents' perceptions of their behaviors. I isolated the drawings which I could not interpret due to the ambiguous nature of the symbols. I compared the uninterpretable drawings with those I had interpreted to determine the difference(s) between explainable and vague symbols. This led to an examination of style or the manner in which participants rendered their illustrations.

Following the analysis across drawing tasks and styles of representation, I selected five drawings which were particularly significant to the research questions. These drawings were rich in narrative description and revealed information regarding the interpretation of visual symbols and the validity of drawings as a methodological tool for visual data analysis. I selected these drawings because I was able to keep their stories--their personal knowledge--intact without imposing my perceptions or making speculations about the social scenes they described. The aim of this study was to capture adolescents' perceptions, and I focused on accurately representing their viewpoints in my descriptions and interpretations.

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[1] "Content analysis is often done to reveal the purposes, motives, and other characteristics of the communicators as they are "reflected" in the content". (Berelson, 1971, p. 18)

[2] "...there is a common universe of discourse among the relevant parties, so that the manifest content can be taken as a valid unit of study" (Wolcott, 1990, p.19).

[3] Eisner (1993) identifies convention as a way in which forms of representation can be treated. Convention reflects social agreement, or "congruence within a culture to enable its member to achieve commonality of meanings" (p. 11).

A Moment of Triumph With Chapter Four

When information could not be interpreted from the visual symbols, I used the data gleaned from the written narratives and interviews. Both of these techniques offered additional information I could not access from the visual narratives. Since the information added understanding and meaning to the visual symbols illustrated, I used these techniques to enlighten my knowledge about all the drawings.

I completed the analysis by summarizing the information presented by visual symbols, and the insight gained from interpreting these symbols as the expression of adolescents' views.

Chapter 4
Findings And Conclusions

The Coding Taxonomy

Figure 2 presents the coding taxonomy . The taxonomy displays the main ideas I discovered in the drawings. The main categories were: actors, activities, social systems and behaviors. Across drawing tasks, descriptors or sub-categories, which added explanation to the respective categories, were identified. For example, the category of actors was illustrated by four different types: self, family members, friends and teachers. Further examination of the actors uncovered additional information about family members and teachers which established patterns for inferring themes. Using frequency counts across drawing tasks, I identified a pattern when a symbol or set of symbols occurred 5 or more times.

As I identified sub-categories, meanings of symbols which were vague or ambiguous limited what I could interpret. Several of the sub-categories, such as teacher characteristics and messages, geographic locations, sibling and kinship responsibilities, were rich in descriptive quality but illusive to interpretation. My inability to gain meaning from the description of the visual symbols led to the first set of conclusions to the research questions: interpretation is limited or enhanced by the descriptive and explanatory nature of the visual symbols. That is, the physical eye can make sense of the familiar and observable. Thus:

1. Drawings can "tell" what the narrator is expressing when the visual symbols are descriptive and explanatory.

2. Since meaning is polysemic, ambiguous narrative--descriptions which require a personal story to clarify intent--require other techniques to gain the necessary information for interpretation.

3. Drawing tasks which ask for a description of an experience--an action, event or activity--are amenable to researcher interpretation. Tasks which are aimed at discovering meaning beyond what is observable--the latent or hidden message--limit the use of visual data as a singular source of data.

The following explanation illustrates these conclusions. In the first and second drawing tasks, I asked for descriptions of experiences or places. These are observable and explanatory. In the third task I asked for a description of a characteristic of a person--a quality embedded in the personality which, without prior personal knowledge of the individual's disposition, is neither tangible nor perceptible for interpretation. And in the fourth task, I asked for a description of a future environment to reveal underlying values and beliefs. These are known to the mind's eye but not available to the physical eye to interpret without the narrator to enlighten the description.

The above conditions exist when interpretation of the visual narrative is informed by the narrator's perspective and is not subject to the projections of the researcher. That is, truthful explanations of vague or ambiguous signs reside within the narrator's consciousness.

Prior to this study, these participants had been exposed to drawings by all three teacher/collaborators, as an instructional tool to extend understanding of concepts and to enhance their display of knowledge (Broudy, 1987). This was a unique situation since drawings are rarely considered as a strategy for achieving curriculum goals and objectives (Erickson & Young, 1996). Familiarity with symbols, as well as knowledge of symbols to convey messages, enhanced these students' participation and reduced the effects of "I can't draw." This study may therefore have reaped the benefits of students' prior experiences with this medium. This experience has important implications for future work with other populations. Participants' personal knowledge of visual symbols provides a literacy tool for making meaning of their experiences and for enhancing interpretation. Training participants in visual imagery and schematic drawing prior to data collection should be seriously considered.

Findings Across Drawing Tasks

Introduction

The findings represent the construction of meanings from the broad range of adolescents' experiences expressed in their drawings. As is typical with qualitative research, reporting these findings requires winnowing the data to qualitatively get in touch with the essential (Eisner, 1988; Wolcott, 1994). This process forced me to review the dilemmas, uncertainties, and conundrums of ideas that I embraced to provide a coherent, useful picture of the particulars that would structurally corroborate general features of the study. As a result, I deliberately selected certain findings for discussion based on: (a) particular information which increased my understanding of adolescents' views,

Figure 2. Coding Taxonomy

1. Actors
- 1.1. Self
- 1.2. Family
  - 1.2.1 Parents as Role Models
  - 1.2.2. Sibling Responsibilities
- 1.3. Friends
- 1.4. Teachers
  - 1.4.1. Teacher Characteristics
  - 1.4.2. Teacher Messages

2. Activities
- 2.1. Play
  - 2.1.1. Organized Play
  - 2.1.2. Informal Play
- 2.2. Work
  - 2.2.1. School Work
    - 2.2.1.1. Homework
    - 2.2.1.2. Learning in the Classroom
    - 2.2.1.3. Grades
  - 2.2.2. Family Work
    - 2.2.2.1. House Chores
    - 2.2.2.2. Yard Chores
    - 2.2.2.3. Kinship Responsibilities
  - 2.2.3. Community Work
    - 2.2.3.1. Service
    - 2.2.3.2. Work for Pay

3. Social Systems
- 3.1. School
  - 3.1.1. Classroom Environment
  - 3.1.2. Types of Future Schools
    - 3.1.2.1. Traditional
    - 3.1.2.2. On-Line
- 3.2. Home
  - 3.2.1. Types of Future Homes
    - 3.2.1.1. Real
    - 3.2.1.2. Dream
    - 3.2.1.3. Futuristic
  - 3.2.2. Geographic Location
- 3.3. Community
  - 3.3.1. Types of Future Communities
    - 3.3.1.1. Kinship
    - 3.3.1.2. Ecology
    - 3.3.1.3. Space Technology
    - 3.3.1.4. Consumerism/Materialism
    - 3.3.1.5. Social/Economic Class
  - 3.3.2. Geographic Location

4. Behaviors
- 4.1. Playing*
- 4.2. Working
- 4.3. Learning
- 4.4. Self-Reflection/Critical Thinking

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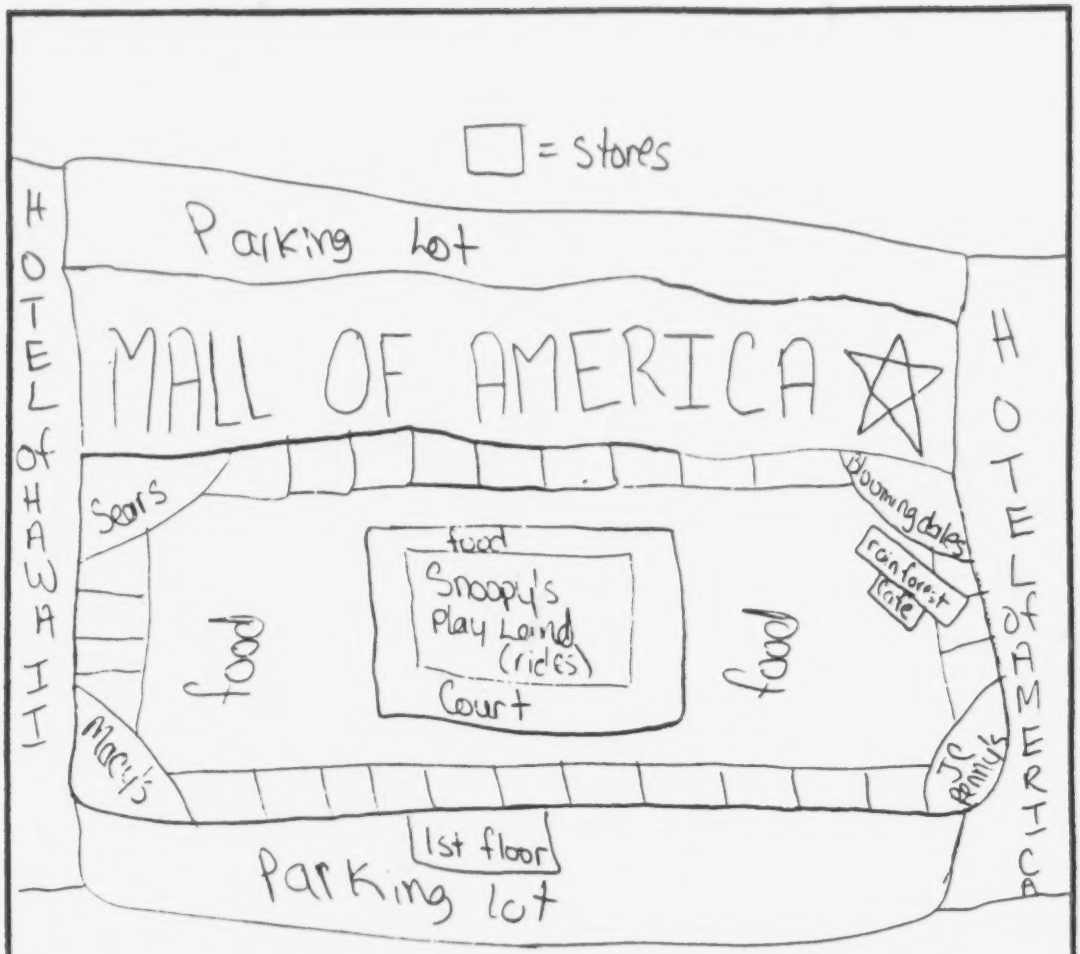
(b) particular insights gained from the explanatory nature of certain patterns, and (c) particular data which displayed similarities and differences between the populations at North Heights and South Heights Middle Schools.

Particular Symbols

Several of the drawings showed the influences of advertising, T.V., and comic art (introduced by pop culture icons and computer design images). Current research on media communication, indicates that advertising and T.V. influence adolescents' views, beliefs and perceptions of their worlds (O'Barr, 1994; Roe, 1983; Walsh, 1990). In several of the drawings, product advertisements promoting fashion, sports apparel and equipment, computers, T.V. screens, fast-food venders and places to shop appeared in the drawings. From these symbols, I identified a theme of consumerism/materialism. (Refer to Illustration 8 and 11). This finding clearly raised questions for future investigation concerning the influence of media on adolescents' perceptions.

I identified another theme from the written description and interviews. For example, in one of the drawings of future environments, a student represented a large home, with an outdoor swimming pool, a fountain, a limousine parked in the front yard and a parking garage. (Refer to Illustration 12.) From the interview, she referred to herself as living in a "mansion" and being "rich", so she could afford these luxuries. She also said that in her drawing, she represented herself as a housewife, at home with her children, waving good-bye to her husband who was driven away in a limousine. From this drawing, and others which represented similar visual narratives (with features such as a roller coaster, a skateboard park as a back yard, dolphin tank, a floating bed, Taco Bell and movie theaters), I discovered the theme of socio-economic status related to occupation, home ownership, and social class. Interviews revealed that owning a dream home was the result of gaining professional status as a lawyer, marine biologist, veterinarian, or pediatrician. As one student said, "I'm going to afford it by going to high school, college and getting a good education and a good job." Interestingly, 70% of the drawings from South Heights represented these themes.

Illustration 8. Consumerism

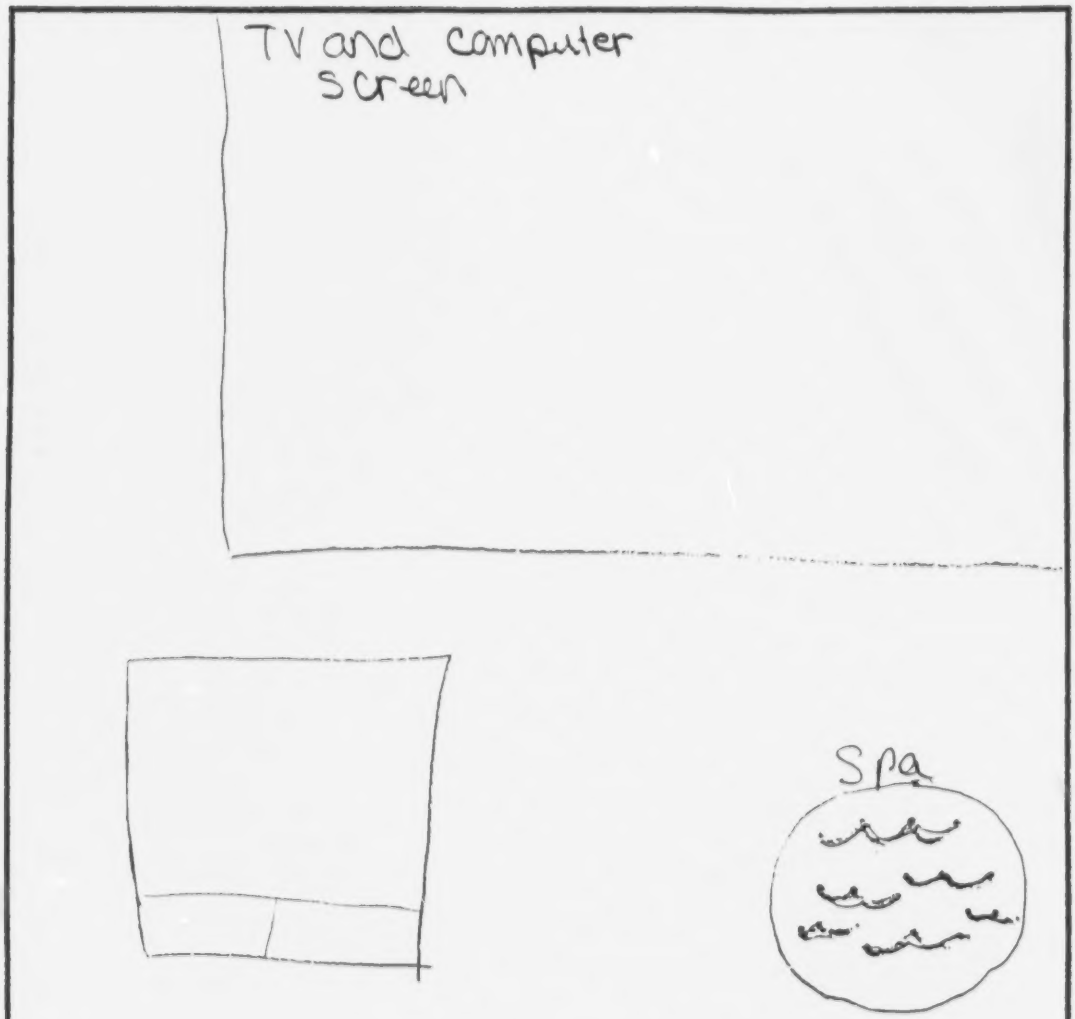


Title of your drawing: Mall of America

Please tell me about your drawing:

I love this place. It is huge and confusing, but still a lot of fun.

Illustration 11. Materialism

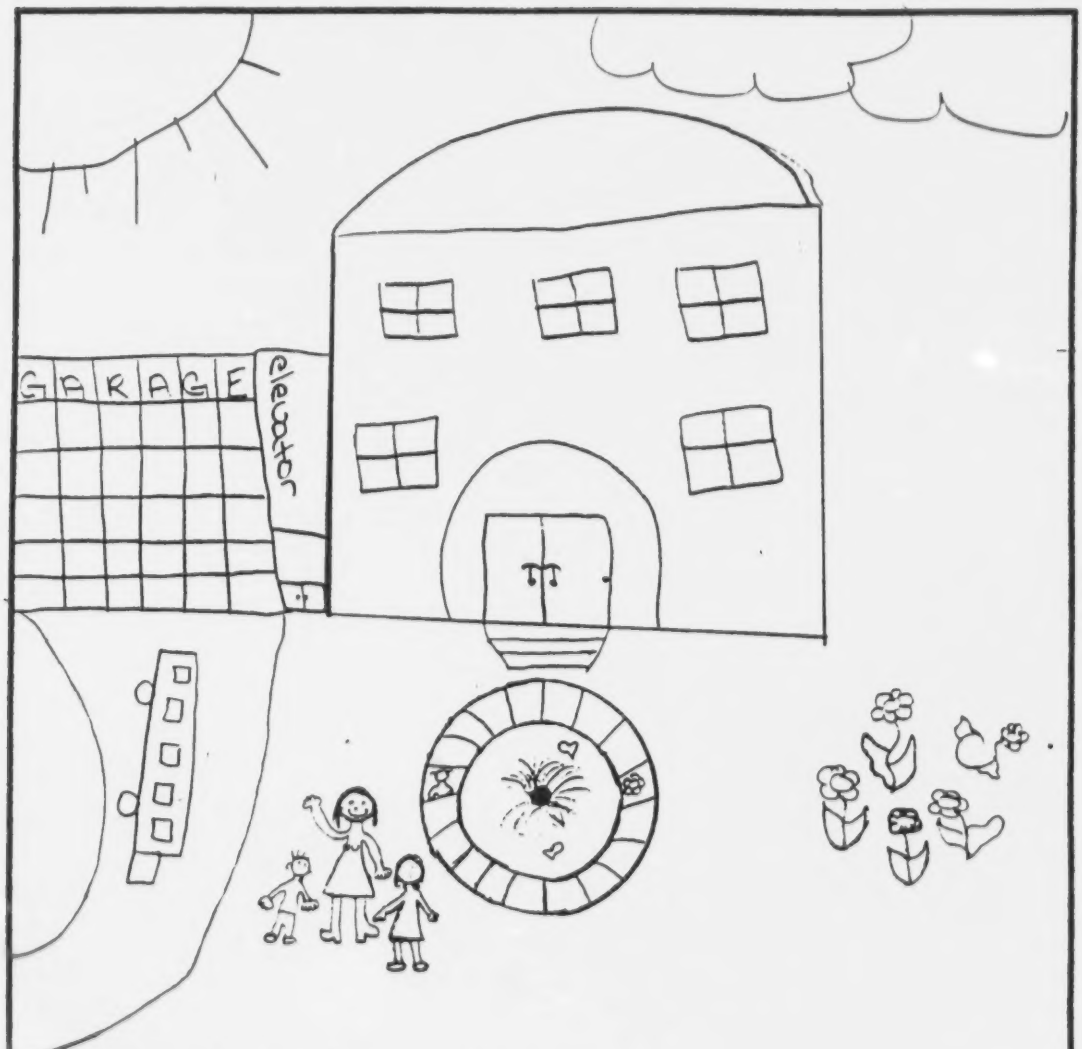


Title of your drawing: Future Room

Please tell me about your drawing:

I'm not sure what the future will be like so I made it what I kindof want my room to be like now. I have a wall screen for my TV, a spa, and my bed just kindof floats all over the place.

Illustration 12. Socioeconomic status



Title of your drawing: My house

Please tell me about your drawing:

This is my future house. I am outside by the waterfall with fish and toads. My husband is driving away in his limo.

Actors

Topic A: Self Perception: Draw a picture of yourself playing, working or learning.

Topic B: Personal Achievement: Draw a picture of yourself doing something that makes you feel successful

Topic C: Inspirational Teachers: Draw a picture of a teacher who motivates you in his/her classroom.

Topic D: Future Environments: Project yourself into the future. Draw a picture of your ideal school, home or community.

I examined the types of individuals which were illustrated in the drawings as a way of finding out how adolescents perceived themselves--independently of others and in association with others. In particular, I explored the frequency of occurrences in which participants represented only themselves and those which illustrated the participants with others (family members, friends or teachers). When comparing the responses between participants at the two schools, I discovered a noteworthy difference. Twenty-four percent of the drawings at South Heights included self only compared to 44% at North Heights while 76% of South Heights drawings included self and others compared to 56% at North Heights. This is shown in Figure 3.

Figure 3. Actors

	Actors	
School	Self Only	Self and Others
North Heights	44%	56%
South Heights	24%	76%

When associations with others were illustrated, South Heights participants drew friends and family members more frequently compared to North Heights participants who more frequently drew teammates and competitors.

In addition, when examining the individuals who appeared in the drawings on the topic of personal achievement, I discovered two illustrations of parents represented by students at South Heights. Additional information regarding these

drawings was revealed during the interviews. The student who drew her mother as a single mom said

> She's a single parent. She takes real good care of me. She's never been married. My friend and her mom are going through this problem that everyone says is because of adolescents. My mom and I don't have that problem. We've always been like sisters.

The student who drew her mom and dad as foster parents said

> My parents are different. They've been foster parents for six years. When I talk about 60 kids in and out of the house, people don't know what I'm talking about. We have to share everything--our rooms, our toys, even our parents. It makes a difference in how you share at school--can't be greedy. I help others by telling them that I've seen a kid like you and I've helped him by doing this, and I wondered if you like to do this. I want to be like my parents when I grow up.

In addition to the parent illustrations, when I interviewed a student at North Heights who was absent on the day of this drawing task, he offered the following as his potential response

> I would have drawn my parents because it's through their work that I understand what success means. My father works for the military and has been very successful, and my mother works for Blue Cross.

These perceptions offer future researchers an opportunity to investigate an alternative view of the concept of personal achievement and how it is translated internally from role model to self.

The topic on inspirational teachers revealed particular characteristics and messages. Teacher characteristics were not visible or descriptive enough for interpretation, though words in the drawings gave me insight into teacher messages. For example, a drawing of a teacher, who was represented several times in different drawings, was illustrated with a slogan on her T-shirt, "Dare To Keep Kids Off Of Drugs." In another drawing of this same teacher, she was illustrated standing in front of a chalkboard which read, "Build yourself and others up." (Refer to Illustration 20.) As I examined these symbols I discovered a pattern of messages about instructional practices, curriculum content and teacher-student rapport. These were shown in a variety of ways: (a) verbatim quote, described in a word balloon, demonstrating a teacher's communication with a student(s), (b) words or a slogan written on the chalkboard describing a teacher's philosophy, (c) logos printed on a teacher's T-shirt, or other items such

Illustration 20. Teacher message

Title of your drawing: Motivation

Please tell me about your drawing:

Ms. C

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as a banner in the classroom. In addition, during the interviews, I asked participants if they could tell me anything that a teacher might typically say. I also gained particular information on teacher characteristics from the interviews, such as elaboration on the teacher's classroom "tone" or insights into teaching and learning practices in the classroom.

One student did not illustrate a teacher but did write a brief comment, "No teacher motivates me in school because I don't like school." When I questioned this student during the interviews, he further stated

> Classes are boring. I would be motivated if it were fun--less book work. The message is, 'do that and be done with it.' It's just not fun with stuff like that.

When comparing information from participants at both schools, I identified similar teacher characteristics. Three major characteristics (themes) of teachers were represented as motivational or inspirational to these adolescents' intellectual and emotional growth: (a) teachers who gave clear explanations, (b) teachers who were understanding, helpful, caring, and empathetic; and (c) teachers who made learning fun and interesting. These findings are consistent with other research (Wubbels, Levy, and Brekelmans, 1997). The following are illustrative quotations of these characteristics from the interviews:

> This was my 7th grade social studies teacher. She made learning social studies very fun. We played Jeopardy, and that was a good way to learn different things. She was very caring, making sure we did our homework and helping us if we needed it. Sometimes she told personal stories and let us tell her about our own personal experiences.

> This is my language arts teacher. He doesn't make it boring--puts a lot of excitement into it. He plays lots of games, drawings projects understand it. He also talks about his family. So we get to know him as a person. That's what makes the difference.

> This is my health teacher. She tell us things to encourage us. Like encouraging use to accomplish our goals. She cares--that's what makes her different. I know she cares because she tell us and she acts like it by asking how we are.

In addition, four participants illustrated teachers from earlier grades. These teachers were described as understanding, caring, helpful, patient, and empathetic.

Activities

Topic A: Self Perception: Draw a picture of yourself playing, working or learning.

Topic B: Personal Achievement: Draw a picture of yourself doing something that makes you feel successful

Topic C: Inspirational Teachers: Draw a picture of a teacher who motivates you in his/her classroom.

Topic D: Future Environments: Project yourself into the future. Draw a picture of your ideal school, home or community.

The 'thickest' insights gained from the visual symbols in the drawings resulted from my analysis of the activities which participants illustrated. Across topics, I organized the activities into two main categories: play and work. All the activities were identified from the visual symbols. Figure 4 presents a summary of these activities. (Refer to Illustration 21 and 22 for examples of these activities.) When examining the drawings, I discovered two types of play: (a) organized play (characterized by structure, routine and practice) and, (b) informal play (characterized by random, "free-time, "goofing-off"). Similarly, I discovered different categories of work: (a) school work, (b) family work and (c) community work. Patterns emerged from these categories. For example, school work was coded into three patterns: (a) homework, (b) learning in the classroom, and (c) getting good grades.

Figure 4. Activities

ACTIVITIES

ORGANIZED PLAY
- Soccer
- Basketball
- Cheerleading
- Gymnastics
- Volleyball
- Swimming (Swim Team)
- Wrestling
- Running Track

INFORMAL PLAY
- Skateboarding
- Shooting Baskets
- Playing Catch
- Rollerblading
- Diving
- Softball
- Bike Jumping
- Building Blocks
- Computer Games
- Drumming
- Drawing
- Golf
- Socializing

SCHOOL ACTIVITIES
- Core Subject Homework
- Electives Homework
- Studying for Tests
- Learning in the Classrm.
- Showing Grades

FAMILY ACTIVITIES
- Housechores
- Baby-sitting
- Yard Chores
- Tutoring
- Bike Fixing

COMMUNITY ACTIVITIES
- Tutoring
- Dogsitting
- Church Work
- Yard Work

Illustration 21. Example of participant's activity

Title of your drawing: My favorite game

Please tell me about your drawing:

I think that I am best at playing volleyball with someone of my family.

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Illustration 22. Example of participant's activity

Title of your drawing: self perception

Please tell me about your drawing:

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There is noteworthy difference in the activities represented by play between the two schools. This is represented in Figure 5.

Figure 5. Differences in Play Activities

	Play	
School	Informal play	Organized play
North Heights (N=41)	17%	37%
South Heights (N=56)	32%	14%

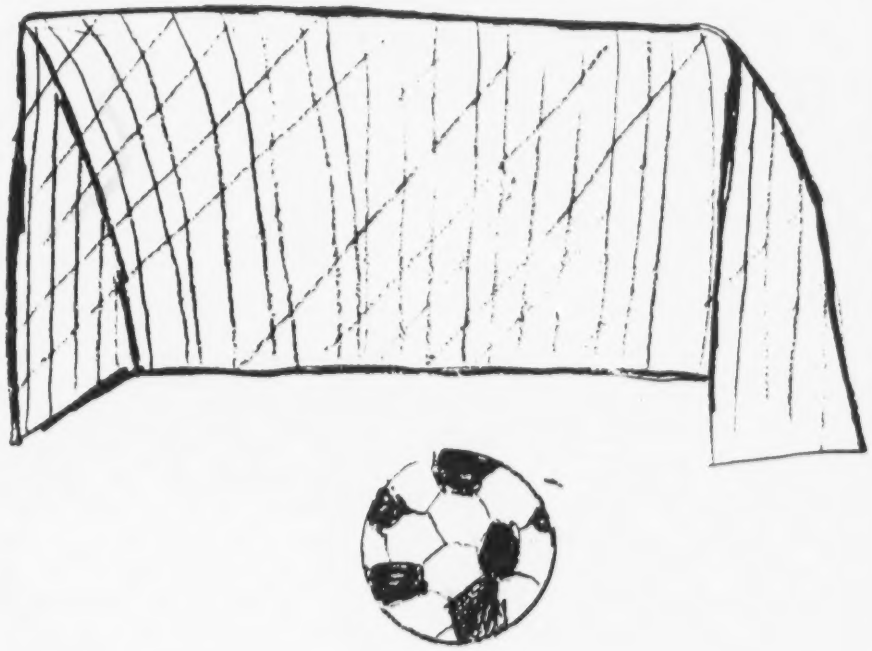
Soccer was the sport most frequently illustrated in the category of organized play. This was represented by females only. Participating in this sport appears to have improved self-perception. As one female adolescent said, "Soccer has given me a lot of confidence because it's through soccer that I learned to accept myself." This finding is consistent with other research (Burnette, 1996).

When interviewing the participants, I learned that informal play activities such as drumming, drawings, computer games, remote control devices, and constructing with building blocks were self-absorbing interests. Further, the categories of play uncovered Gardner's concept of inter/intra personal intelligence (1988). I discovered when interviewing participants, that those involved in organized play referred to socializing or communicating with others more frequently than those involved in informal play. These adolescents were more self-reflective and introspective especially when discussing their hobbies. From the responses to the self perception and personal achievement drawing tasks, I concluded that my participants at North Heights perceived themselves involved in sports activities where they experienced success. (Refer to Illustration 28.) In contrast, South Heights students perceived themselves involved in school activities where they experienced success through academic achievement (represented by their frequent illustrations of grades on report cards and tests). The following quotations and Illustration 29 are examples of this finding.

South Heights

> I always show my report card to my parents. I don't expect anything from it, just that they're proud of me that I got the good grades. I like showing it to other people, like my friends, and they're amazed because they don't get quite that good grades. I keep my report cards in a scrapbook.

Illustration 28. Participant's experience of success at North Heights



Title of your drawing: 'Self Portrait' (
Please tell me about your drawing:

Illustration 29. Participant's experience of success at South Heights

Title of your drawing: Succes

Please tell me about your drawing: I Drew this because I Feel good about myself when I make good grades.

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I do really well in Math class. I drew myself solving a very difficult problem that maybe other kids couldn't do. That makes me happy.
I'm showing my report card to my mom and my friends. Gettin an 'A' feels good--good for me.

Whenever I get my report card it makes me feel better about school. I share my grades with my grandma and my mom and dad. I get money--$5.00 for mixed grades, and $15.00 for straight A's.

North Heights

I'm good at running. It makes me feel successful because it's something I'm good at--I can actually do something better than other people. I will probably run track in the future.

I like competitive sports. It makes me feel proud when I win. My audience is my mom--she cheers me on--she comes to the games and runs up and down the sidelines yelling 'go....go'.

Winning is a great experience. You feel good and adrenaline is high. I've won a few gold medals. My brother introduced me to wrestling. I'm probably going to go on to college wrestling

Social Systems

Topic A: Self Perception: Draw a picture of yourself playing, working or learning.

Topic B: Personal Achievement: Draw a picture of yourself doing something that makes you feel successful.

Topic C: Inspirational Teachers: Draw a picture of a teacher who motivates you in his/her classroom.

Topic D: Future Environments: Project yourself into the future. Draw a picture of your ideal school, home or community.

Locating where these students were when they viewed their experiences was critical to understanding how contexts were interwoven with adolescents' experiences. I compared the drawings at both schools to discover the settings in which these experiences were represented. These findings are presented in Figure 6.

Figure 6. Contexts of Adolescents' Experiences

	Context		
School	Home	School	Community
North Heights (N=57)	21%	22%	56%
South Heights (N=41)	45%	40%	14%

During the participant interviews, I gained insight about the frequent appearance of the school environment in the drawings of South Heights' participants. These students used the outdoor spaces of the school campus to engage in after-school or weekend play activities as a substitute for the lack of recreational facilities in their community, or, due to the unavailability of transportation to recreational facilities.

I discovered three illustrations that were independent of context or could not be attributed to any context. One of these was of a student drawing which he said could happen anywhere. In contrast to this, I examined another illustration of a student drawing, but during the interview she placed this activity in the context of school--"I do this during class when I'm bored by the teachers' lectures." The last non-context based drawing represented a bible. I interpreted this to mean an important connection with church and religion. The interview with this articulate, reflective student revealed a strong association with a religious community, a commitment to his religious beliefs nurtured by his family, and the disclosure of his isolation from school life as a result of his perceived differences between himself and his classmates.

Though few in number, I examined the drawings of future communities with particular attention to themes which might reveal adolescents' beliefs and values. These included communities based on kinship affiliation, space technology, ecological concerns, and crime. Illustrative quotations about these themes are presented below

> My room is enclosed in a bubble on top, because the atmosphere got so polluted.

> There's trash and litter on the streets. People live in high rise buildings that are hard looking.
>
> I want to live in a neighborhood where you could go out at night, take a walk, and not be afraid that someone is going to mug you.
>
> Probably in a million year the world is going to blow up.
>
> Our environment is messed up. People don't take care of it and there is trash everywhere. In the future, it will be like that one place in Japan where there's smog and trash everywhere. I'd like to teach people not to trash by holding conferences so that they know what they're doing.

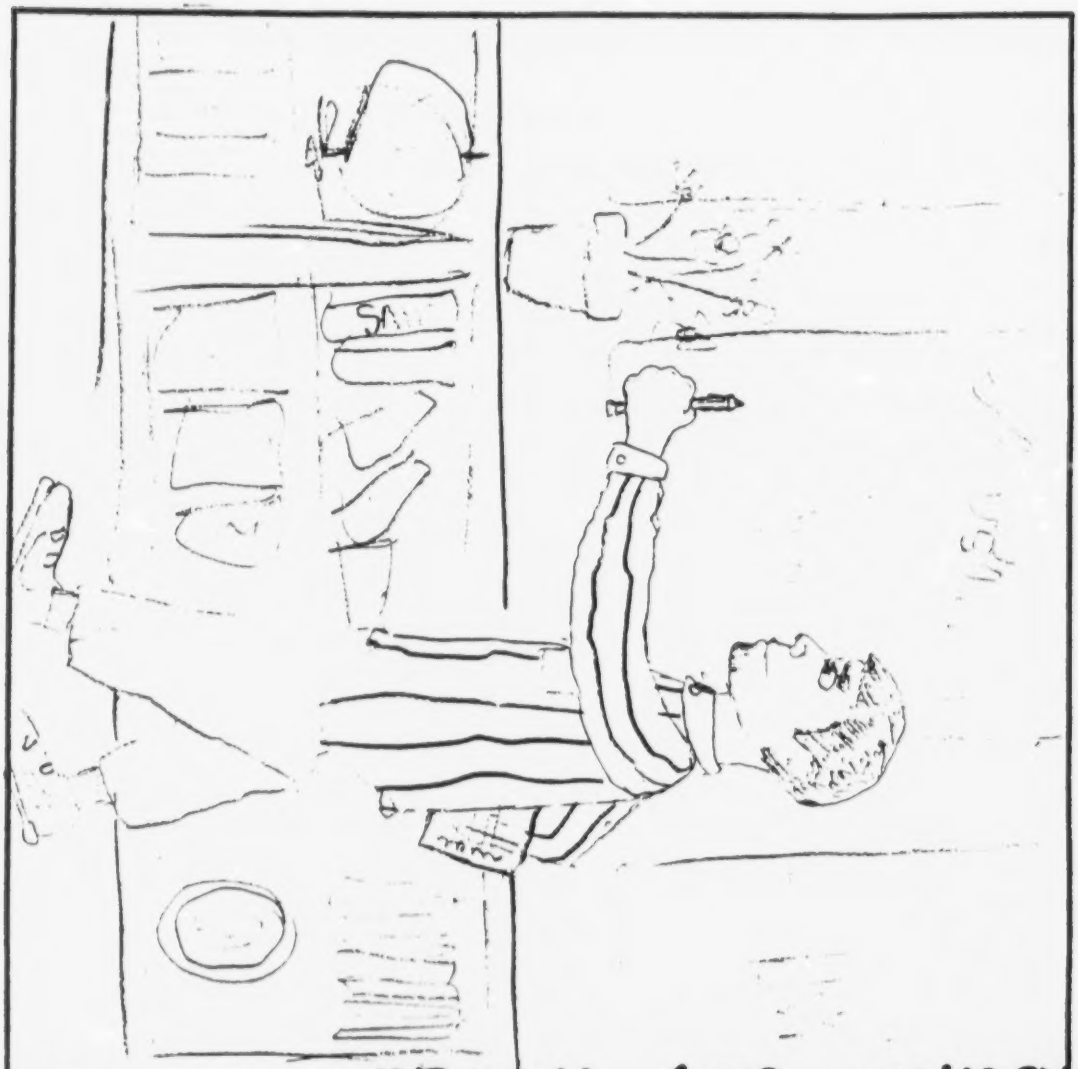
Classroom Environment

As I examined the drawings on inspirational teachers, I identified a sub-category of classroom environments. The students' descriptions of teachers in the classroom provided me with an opportunity to examine the artifacts which students illustrated. Items most frequently illustrated were: (a) chalkboards (usually with homework, the day's date, teacher's name, and in some instances, a teacher message written on it, (b) teacher desks, (c) student desks (when more than one student desk was illustrated, these were shown arranged in rows), and (d) books and papers belonging to the teacher and students). Equipment, such as an instructional aid-an overhead projector and screen, was illustrated in two different drawings of the same classroom. Other equipment included clocks, a file cabinet, sewing machines, pattern tables and physical education equipment. The chalkboard appeared in 57% of the drawings (n=42) with 38% represented by teachers standing in front of the chalkboard. Twenty-one percent of the drawings illustrated personal items. These belonged to both teachers and students and included items such as water bottles, student backpacks, and a limited number of decorative items such as a teacher's apple and posters decorating the walls of a classroom. One drawing showed a side view of a classroom where a teacher's personal items were placed among the books in a bookcase. (See Illustration 34.) This learning environment of this particular classroom is discussed next.

During the interviews, several participants referred to a couch in this teacher's classrooms. This was also the teacher who appeared most frequently in the drawings at South Heights (in 16% of responses). The following are illustrative quotations about this environment.

> Mr. M. has this weird carpet thing shaped like feet that covers the front of his desk. He also has couches in his

Illustration 34. Particular classroom environment



Title of your drawing: VERTICAL AXIS SYTHESYSER OPUS IN C MAJOR

Please tell me about your drawing:

THIS IS MY TEACHER MR. MILSTINE. HE IS NOT WALKING UP THE WALLS. I LOOK FORWARD TO HIS CLASS EVERY DAY.

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> room. If you're really stressed out you can go and lie on those couches. Sometimes when we present our reports we sit on the couches--it's real comfortable....like hanging out with your friends, not being in class.
>
> Mr. M. has these couches in his room. We sit on them when we have discussions or Mr. M. wants to talk to us about something important.
>
> All my other classrooms have our desks in straight rows. But in Mr. M's room, it's different. He has lots of his personal things in there, and he has these couches where we can read and talk and take time out.

Though students spoke of active, hands-on experiences during the interviews, students' active involvement in learning was not illustrated in any of the drawings. The majority of students described school life as passive learning (except for instances of hands-on activities), homework, and report cards. Because of my personal experience with learning environments, I was particularly curious about the findings related to classroom settings. Although recent research on school reform issues has focused on learning environments (Marshall, 1990; Meek, 1995; Taylor, 1993a) to enhance instruction, participants did not depict stimulating classroom environments designed for the acquisition of knowledge in any of the drawings. (Refer to Illustration 36.)

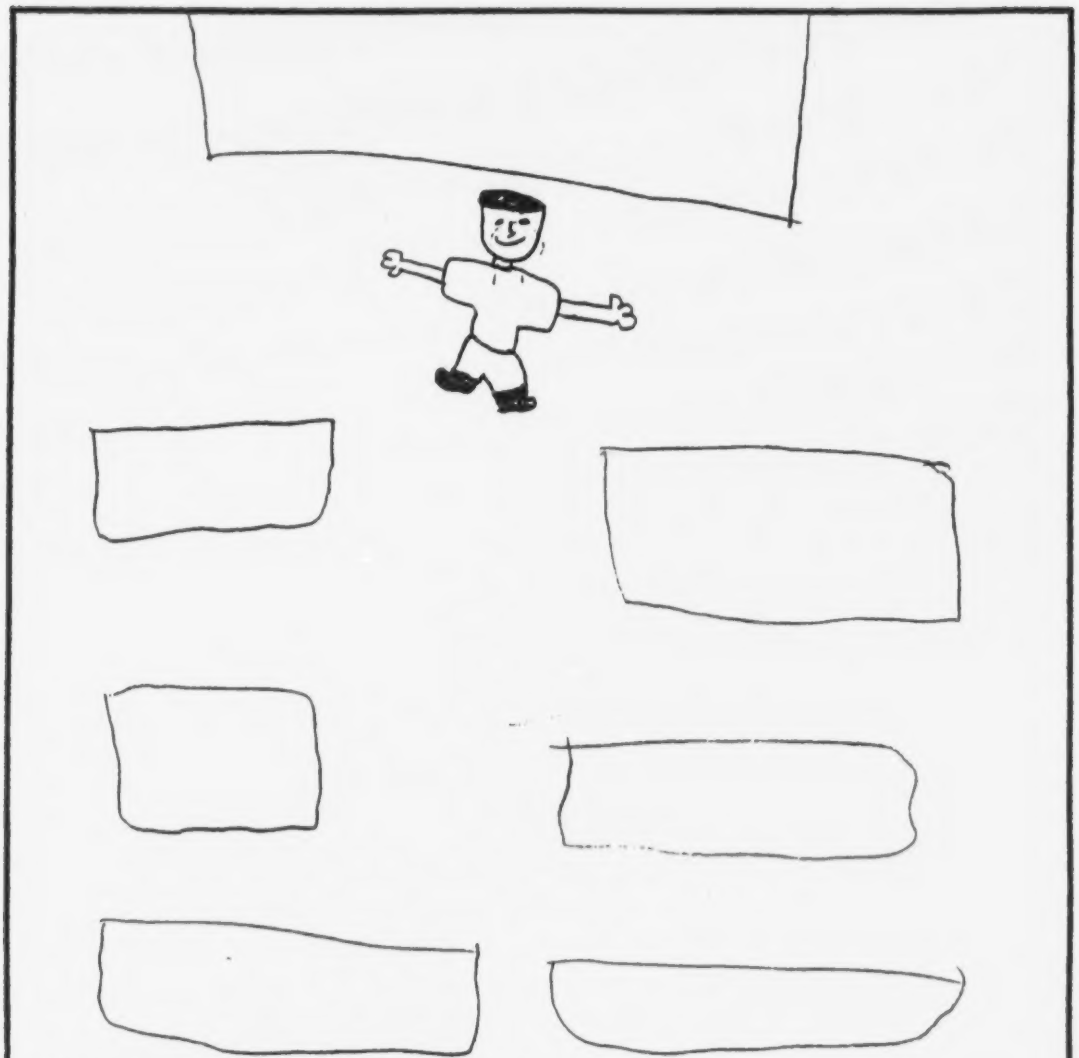
Findings From The Written Narratives

When the graphical symbols were ambiquous or insufficiently explanatory for interpretation, written narratives helped me to understand the meanings embedded in the symbols. I compared three types of written information: words in the pictures, elaborated titles, and written comments. Figure 7 represents these findings across drawings tasks.

Figure 7. Use and Non-Use of Written Narratives

	Written Narratives		
School	Title	Words in Pictures	Comments
North Heights (N=82)	74%	50%	54%
South Heights (N=118)	48%	64%	69%

Illustration 36. Classroom environment



Title of your drawing: Motivation

Please tell me about your drawing:

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When examining the frequency of participants'use of written description to add explanation to their drawings, the task on inspirational teachers was narrated most frequently. Participants may have realized that their illustrations of the teachers did not reveal characteristics which described "inspiration" and added the information to explain or clarify their choices. Over 50% of the participants wrote narratives about inspirational teachers. A few drawings gave a glimpse of a teacher's character through words in a balloon.

I also examined the drawings I had isolated (56%) to determine if the written information would clarify my lack of understanding of the visual symbols. After reviewing the written comments, I could interpret 20% of those drawings. Thirty-eight percent of the drawings could not be interpreted without additional information gleaned from the interviews.

Findings From The Interviews

Significance of the drawings to the interviews.

The drawings served several functions. Generally, for all participants, the drawings were the precursor, the "stimulus" for retrieval of their thoughts, ideas and feelings, to the questions I asked during the interviews. For some students who had difficulty expressing themselves verbally, the symbols in the drawings helped to organize their thought processes and provide a point of reference for answering questions. A few of these students had difficulty articulating their ideas into meaningful sentences, even though their drawings were richly described. These students used drawings to transmediate from one communication system to another--from visual thinking into verbal expression (Siegel, 1984). For other participants, the drawings served to jog their memory. Typically these students would take a few minutes to look at their drawing, and then say, "I remember, what I was thinking about." For still other participants, who appeared shy and uneasy about talking with me, drawings were used as a shield. They avoided eye contact, and focused all their attention on the drawings during the entire interview. At least 33% of the interviewees reacted in this way.

I concluded from these experiences, that drawings are a means to opening "doors" to communication. That is, drawings work as the interface between the interviewer and those individuals who are inhibited, hesitant, reluctant or constrained. In conducting these interviews, I discovered that without the drawings as the incentive for discussion, I would have had difficulty eliciting the information and gaining additional insight into their points of view. This raised my awareness of the difficulty of doing this work from an emic perspective, of the impartiality and objectivity required to maintain the integrity of this work, and of the need to provide a coherent, consistent perspective of adolescents' perceptions.

Overlaying the data from the interviews on the data from the visual symbols, and in some cases, using the information from the written narratives, resulted in complete interpretation of all drawings. I discovered that the interview data was most informative for gaining insight into adolescents' beliefs and values--layers of information were added to all the drawings, even those I had described and interpreted from the visual data as a singular source.

In particular, interview data on the topic of future environments revealed adolescents' views beyond what their drawings described. For example, Illustration 40 shows a community under the water with one building in particular tall enough for a cylinder to rise above the surface of the water. A supply of air, above sea level, is available to support life under the water. In addition, scuba divers and a submarine give evidence of life. A type of large whale is also represented as well as a shark which is shown as a predator. The shark appears to have gone through some adaptive changes as evidenced by the modification in the structure of its tail. I inferred that this drawing symbolized the theme of global warming. The interview uncovered the meaning of this narrative.

> The ozone layer will decrease and melt the ice over Antarctica. The water from the melting icebergs will rise above the cities and sink them all under water except for China because the elevation is so high. There's an air hole in the building so people can live underneath the water. Divers are explorers. There will probably be giant whales and weirdo sharks, also sea ships.

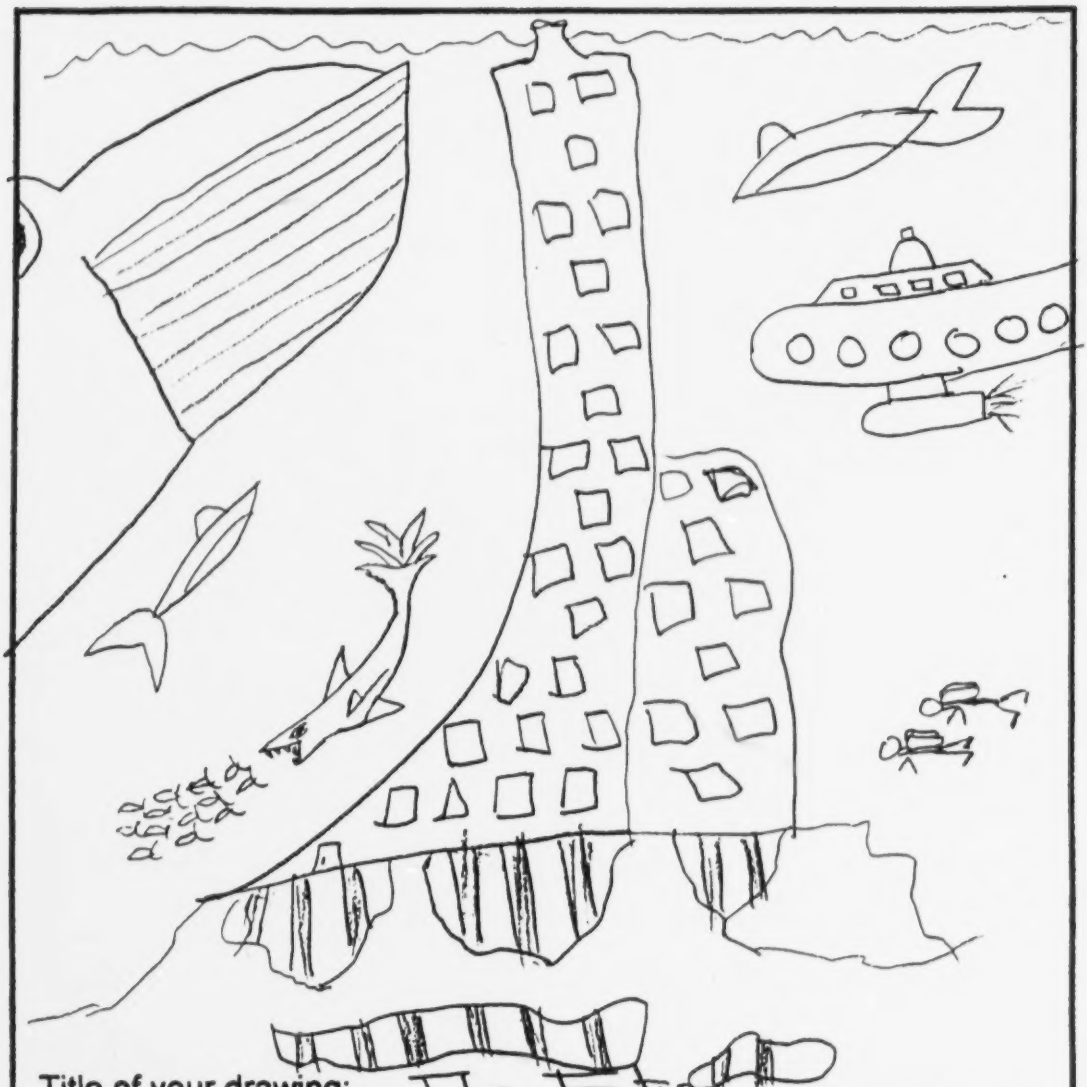
A different approach to the topic of future environments represented a drawing of a computer station as a future school on-line. (Refer to Illustration 41.) I gained further insight into this adolescent's perceptions through his interview.

> I think that the school of the future will be on-line with extracurricular activities held at school. Everything would be connected via on-line service. Homework would be done through e-mail. During lunch, if there's time, you could talk with other students on-line. The school day would be shorter, but there would also be school on Saturday. Students would be able to talk to talk to their teacher a bit more than in the classroom--it would be easier because he'd be on line and you could listen better.

During this interview I recalled that another student had given me his perceptions of the use for computers.

> Getting involved in computers is a good way to combat the violence and the gangs at school. If kids

Illustration 40. Future Community



Title of your drawing: The Future

Please tell me about your drawing:

This is what I think the future wil be like the cities will drownd and everyone will die, except for chinese people.

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Illustration 41. Future School

Title of your drawing: Future Values

Please tell me about your drawing:

Future School

School will be on-line

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really had to argue they could use the games to fight it out rather than using physical violence.

During the interviews, I asked students to substitute other words or feelings for success to gain a more definitive explanation of the activities chosen to delineate success. I discovered that the drawings became the stimulus to encourage critical thinking about their perception of success. I have included sample responses to the question, "Can you tell me what it feels like to be successful?" or, "Can you give me another word for successful?" Completely unanticipated, I found that by asking this question I was able to gain entry into ways of problem-solving. The traditional banking model of instruction inputs data to establish a uniform meaning to verbal discourse (conformity to the rule). The connected model of instruction provides for the expression of ideas to emerge to capture the tacit meanings in the speaker's language (Banks, 1994). Because I asked my participants to probe their minds for explanations, I initiated critical thinking about the meanings of words and I was also able to observe the process of solution-finding. This was also a good demonstration of the utility of Spradley's (1979) use of native language questions.

Feels Good. I like it because I'm good at it.
Parents are proud of me (for getting good grades). It means I'll be able to get a good job.

Helping someone less able, like my brother who has downs syndrome. I tutor him to help him learn how to speak. Makes me feel good when I help him.

Success means that I can do something a lot better than others.

Being a cheerleader makes me feel responsible and I respect myself more. It makes me feel really happy. Something I'm good at; makes me feel happy.

Feeling satisfied because I've achieved something

When I do something good, my parents are happy. That makes me feel valued and I feel successful.

Something I can do by myself.
Doing good work for other people.

Overall, when I queried participants about whether they would draw the same pictures again, 94% (N=56) responded yes. When I asked participants if they had learned anything from doing the drawings, 20% said they had an

increased awareness of what was important to them. "I didn't realize I liked buildings so much," said one adolescent. Another adolescent responded this way.

> I could remember everything from the past. It feels than the present, because all the people spoke Spanish. I moved to Albuquerque because of the California earthquake. We lost our home. My aunt live here. It's good to have family here. I learned from doing these drawings never to give up on something. If you think you cannot draw, if you try your hardest, you can do it.

Fifteen percent expressed a greater respect for drawings as a way to translate their thoughts; 10% valued the opportunity to do something different; 6% expressed amazement at their artistic ability; and 49% stated they had not learned anything from the drawings.

This continued dependence on written narratives and interview data caused me to rethink my assumptions concerning the use visual symbols as a singular source for data analysis.

Significance of the study to teacher/collaborators

The teachers valued the project as a tool for gaining insight into their students' worlds. The following is a comment by Mrs. G.

> I'd like to find out more about it. It's interesting. It might help me to become a better teacher. It's another way of finding out-- gleaning information from the kids.

When discussing teacher/student rapport and classroom tone, both teachers spoke about the issue of classroom size. They said that the number of students instructed in a classroom was too many for personal knowledge to be exchanged. Further, middle school teachers' responsibilities to core curriculum competencies limited time for developing personal rapport, except outside the teaching-learning experience.

The teachers viewed the drawings as an efficient way to access personal knowledge and gain a better understanding of their students. Both teachers regarded drawings as particularly useful for those students whose verbalization skills are not refined or who have difficulty expressing themselves orally. Also, the teachers believe that findings from this kind of research elicit insights into instructional practices not generally available to teacher practitioners. For example, the following narrative describes one student's reaction to her teacher's instruction.

In this drawing Amber (pseudonym) takes us into the school auditorium to meet her teacher. She focuses the viewer's attention on the teacher who stands

in the center of a stage addressing her students. To make this experience vivid, Amber provides a backdrop--a stage set for a performance. The students, who are represented as a cohesive group (an inference of cooperative learning), are engaged in her instruction (the heads of the students are directed at Mrs. R. giving her their full attention). The teacher's eyes are wide open as she reads from a script, modeling the skills she wants her students to learn. Amber tells the viewer about Mrs. R.'s intent through a word balloon.
"Get into your acting. Play as if it's really you!" The message is that of a caring, motivational teacher.

From her written description, Amber gives the viewer more insight into Mrs. R.'s character: "I drew Mrs. R. Because she always motivates me to do better and be a better speaker and actress." Further, her interview added meaning to Mrs. R.'s instructional practices.

> I love to act and speak out in front of a lot of people. This is for a performance we're going to put on. Mrs. R. Is telling us how to get into the acting. She always says you did a great job at this but you can do better by doing this. She just doesn't tell us this. She does it for us--shows us what we're supposed to be doing.

This was one of the few drawings that not only represented a teacher interacting with her students but also represented a teacher instructing a group of students.

Particular Drawings

Introduction

When selecting certain drawings for a complete description and interpretation of the visual narratives, I discovered that the relationships between symbols across drawings was another link to understanding this visual language. That is, the more opportunities I had to 'read' a sequence of events or experiences, the more clearly I could understand the message communicated. This was similar to the whole language approach to literacy development where meaning is gained from the integration of parts into a whole. This led me to examine a set of drawings by a single individual to see if more than one drawing could give me a more complete perspective of that adolescent's perceptions. I found that several participants began a theme in one drawing and continued that theme, or a component of it, into another drawing. This provided me with an opportunity to investigate the relationships between symbols and construct a more detailed description of these individuals' perceptions. It revealed the importance of investigating not only the intra-relationships of visual symbols in a

single drawing but also the inter-relationships of symbols over multiple drawings. It also raised questions for future study on gaining insight into individuals' changing perceptions over time. The following drawings are examples of themes continued in two of the four drawing tasks.

"Puppy Sitter."

This drawing, on the topic of personal achievement, was one of the few that filled the picture plane. It was also one of the few that portrayed a scene of an aesthetic neighborhood. It was colored using both markers and crayons, which added to the richness of the description.

The female figure is Ellyse (pseudonym) who is informally dressed in a T-shirt and jeans, pulled by a dog on a leash. Ellyse tells us from the title that she has a job dog-sitting, and from the visual symbols she has described, she lets the viewer know that she is puppy-sitting in a neighborhood familiar enough to recreate the details of this experience. Ellyse is taking the puppy for a walk.

The bend of her knees and raised heel of her shoe suggest that she is walking at a very fast pace. This is emphasized by the shadow lines below her feet and around the puppy's paws, a rendering technique of drawing that requires spatial perception and technical skill to communicate that message. Beyond the sidewalk is a wooden fence that is low enough to afford a view beyond. A weeping willow tree hangs its branches over the fence. Ellyse describes this by drawing heavy lines below the branches on the fence, implying a shadow. Beyond the tree is a dog house with the name "Flufy" on the roof. A field of grass is bordered by a row of tulips that fades off into the distance. She has composed a scene that has a foreground, middle ground and background--and again, demonstrates an understanding of spatial relationships. Basically, I examined this drawing as an example of artistic competence. However, from her interview, I gained additional information about her perceptions of this experience.

> I hang out in jeans on the weekends....That's when I usually have a job dog sitting or taking care of a neighbor's plants and other animals. That's a picture of a neighbors' back yard. I like to walk down this street. The neighborhood is real safe....The tulips aren't there, I just added them to finish my picture....I get jobs because one neighbor tells another that I'm good at taking care of animals and babies.

Ellyse lives in a neighborhood that is safe, pleasant to walk in, and where neighbors talk to one another. She participates as a member of the community. The theme of community Ellyse represents in this drawing is continued in her drawing on future environment but reveals very different scenarios.

Illustration 44. Trust No More

Title of your drawing: Trust no moor

Please tell me about your drawing:

I believe their will be another nuculer war moor litter and no trust so they will have fences not trusting moor grateidy.

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"Trust No More." (Illustration 44)

In this drawing, Ellyse is absent from the scene. Instead, the viewer is privy to her perceptions of a future community. The drawing is rendered with short, hurried pencil strokes which adds to the austere, hard, colorless look of the community.

She makes us aware of the appalling condition of this community with symbols illustrating litter and trash carelessly thrown on the street in front of the corner of a brick building painted with graffiti symbols. In particular, is the menacing appearance of a skull and cross-bone. In the background, a group of houses is surrounded by fences. From her interview, I gained additional meaning about the visual symbols.

> This is probably the year 2000. There are lots of gangs, lots of litter, really high stick fences around each house because no one will trust each other any more. There will be another nuclear war. I don't picture it being very good. Fences are made of metal and cement. More gangs will mean more graffiti. We will not have a safe society.

The contrast in descriptions of the two neighborhoods is obvious, but her change in perception is startling when comparing her choice of color versus pencil to render the drawings. The former adds to her optimistic view of her present neighborhood and the latter reveals her pessimism about future neighborhoods. This was one of the drawings that showed public awareness and media exposure to the critical issues challenging contemporary society.

"Mrs. R. and Drama."

In this drawing (response to inspirational teachers), Cheryl (pseudonym) appears in a familiar scene at speech and drama class where students' performances are used to assess their skills. All eyes are on Cheryl. She faces the viewer as well as the teacher. She emphasizes the importance of the event by drawing herself in the center of the picture.

Cheryl is giving a speech on California. She is being graded for her performance. She adds meaning to the experience by communicating her feelings about this event through the use of a word balloon. "I am nervous, I am being graded by my teacher." Her facial expression reveals her anxiety. Since this is her response to personal achievement, she also wants to tell the viewer about her success which is determined by her teacher. "Very nice," says Mrs. R. When I interviewed Cheryl, she told me she was very shy. It was very hard for her to talk in front of an audience. However, this class was very important to her

because she wanted to be a singer and an actress. Mrs. R. really encouraged her to work hard to reach her goal. Cheryl told me she had established a relationship with this teacher which gave her the confidence to try hard. "Mrs. R. always tells me to have faith in myself and to value who I am."

Untitled.

Cheryl's response to the topic on future environments is particularly interesting as a continuation of her goal to become a singer and actress. In this drawing, Cheryl is now a youthful adult, dressed in red high heel shoes with a red heart on her T-shirt. She is standing next to a male. They are each holding microphones and their mouths are open, suggesting they are singing together. They are looking at each other establishing a relationship between them. Above their heads are symbols of two squares. One is a picture of Cheryl on a compact disc and the other is an image of Cheryl on T.V. From the relationship between these symbols and the figures, the viewer is able to make a meaningful interpretation of the scene. Cheryl is now a successful singer (captured during a concert). Another set of symbols describes a high rise building with many windows. The windows on the second floor to the top of the building are Cheryl's apartment.

During her interview, Cheryl told me this drawing illustrated her goal in life.

> I want to go to New York and live in a high rise apartment. That's me, on the second floor from the top. I want to be an actress and a singer. The person next to me is also a singer--it could be my boyfriend. I'm real successful because I've got my picture on a CD and I'm also on television.

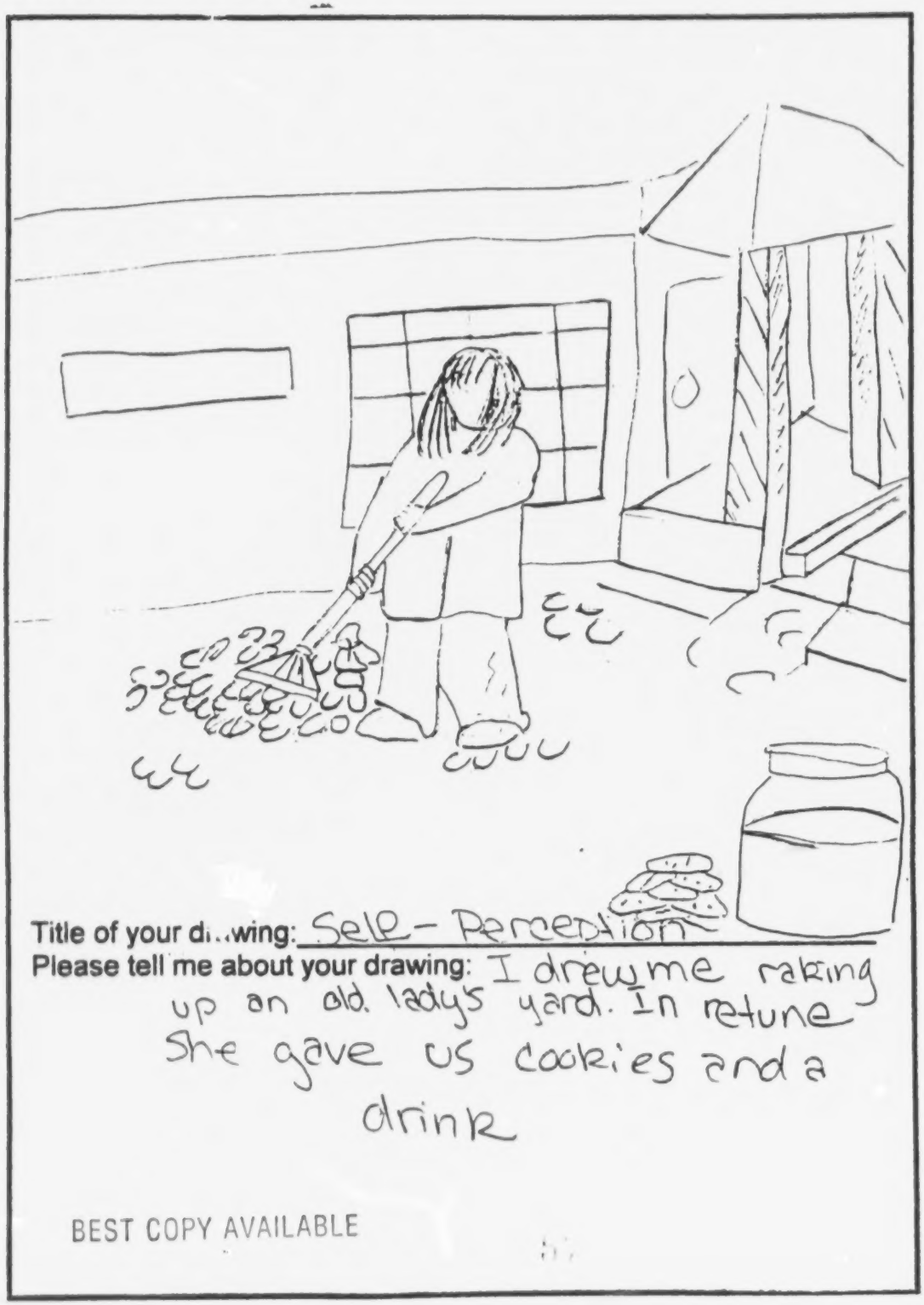
The examination of the two drawings as a continuing story makes each drawing more meaningful. How she is experiencing her present life influences the way she perceives her future life. That is, this "eye witness account" of the encouragement of a teacher (Vygotsky, 1978) inspires her to achieve her goal.

"Self-Perception." (Illustration 47)

This drawing introduces Wanda who is raking leaves in a yard. Trees are not drawn. Wanda's face hasn't any features--no eyes, nose or mouth, showing a vacant expression. The pencil rendering adds to the overall impression of Wanda's detachment from this experience.

Wanda is dressed in a jacket, establishing a relationship between the fallen leaves and the coolness of the weather and the fall season. In back of her she has drawn a house. It has steps leading to a covered porch and a front door. A large picture window and a small rectangular window are the only other

Illustration 47. Self-Perception



Title of your drawing: Self-Perception

Please tell me about your drawing: I drew me raking up an old. lady's yard. In retune She gave us cookies and a drink

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features of this house. Below the house are symbols of a pitcher filled with liquid next to a pile of cookies. Wanda tells the viewer that in return for raking the leaves in the yard of this home, she gets something to drink and to eat (cookies). Her brief written description tells the viewer whose yard she is in and confirms the relationship between the symbols. "I drew me raking an old lady's yard. In return, she gave me cookies and a drink." The interview, however, revealed a deeper understanding of the meaning behind the symbols.

> I was raised by my grandmother until my dad moved here. I usually go to see her on the weekends, except when she is not feeling well. This was one the weekends when my grandmother was ill. Then I work for the neighbors who live next door. I get paid for it but I also see this as doing good work in the community. They're an older couple. I also help with house chores. Sometimes they invite my dad and me over for dinner. I am very close to my grandmother and I look forward to the weekends when I can be with her.

This drawing is about Wanda's relationship with her grandmother. Her sadness or disappointment at not being with her grandmother frames her detachment from this experience. Her recollection of this event is significant for the way she solves this dilemma in the future.

"Beliefs/Values."

For the drawing on future environments, Wanda continues the narrative about her grandmother. The bleakness of the present has changed to a colored, bright perception of the future. Wanda has moved her home to a neighborhood she has created adjoining an existing hospital and health care district in Albuquerque. The sun is shining, there are trees and a field of grass. Adjacent to the hospital are a series of identical houses with a person standing in front of the door to a house. Beyond the field of grass is a bakery and a market. People can be seen through the window in the bakery. Since this does not describe the characteristics of the existing neighborhood, and she did not add a written description, I depended on her interview to clarify the meaning of the symbols.

> My grandmother sometimes gets very dizzy and has to go to the hospital. So we live next to the hospital to take care of her. The four houses belong to aunts

and uncles. That's my aunt outside her house. I am very attached to my family, and as I get older I want to be surrounded by them. The bakery and the market are where I live now. That's me with my cousin. I really like these stores and so I moved them down to Central so I could still visit them.

Wanda has created a neighborhood that has solved her current concerns about her grandmother. She has taken care of her grandmother's condition, she has made her grandmother accessible to her at all times, and she has surrounded herself by other members of her extended family. Wanda's theme revolves around family ties, especially her relationship with her grandmother. This was one of several drawings from South Heights that illustrated a theme about kinship affiliation.

"Me Building A Skyscraper With Blocks."

This set of drawings is by Stephen, a student from South Heights whom I previously mentioned in the discussion on what participants learned from drawings. Stephen had said, "I didn't know I liked buildings so much. I never paid attention to the fact that I wanted to live in Denver."

When examining these drawings, I was particularly aware of the limitations of my positionality (personal knowledge of architecture) to value free and objective interpretation. These experiences were embedded in my perceptions and it was difficult not to infer meaning due to the familiarity with the visual language.

For his response to the topic on self perception, Stephen tells the viewer that he constructs models of buildings. He does this in a room which has a window with a view of trees and the sky. The drawing is brightly colored and the natural light from the window emphasizes the light-hearted, happy environment in which Stephen pursues this activity.

Stephen is kneeling on the floor in front of a large model he is building. He has a block in his hand. His arm is stretched towards a gap in the model that is the same size as the block in his hand, to show the viewer his expertise at engineering. The building is so tall it extends beyond the top margin of the picture plane. This gives the viewer a glimpse of the focus, concentration, patience and time Stephen takes to build his models. He wants the viewer to know that this particular building is a skyscraper. The skyscraper is elaborated with architectural detail telling the viewer that he has knowledge of architectural style. Stephen chooses to color his model. The colors he chooses may reflect his awareness of postmodern architecture (characterized by mauve hues, juxtaposition of bright contrasting bands of color).

Stephen's written description tells the viewer that this is an activity he does everyday. It was the interview, however, that revealed a more complete understanding of the event.

I'm in my bedroom. I like playing here because I have a great view of the top of the trees in our backyard. My building blocks are 1 1/2" x 1 1/2" and made of wood. My mom started my collection when I was about 6 years old. Now I have thousands of them. My grandparents give me blocks as gifts on special occasions, like Christmas. I build either mansions or skyscrapers. I do this all summer long when school is out. I want to be an architect.

Stephen's drawing was the only one I examined that revealed a singular interest in an activity begun at an early age. His preoccupation with building is continued in his response to the topic on future environments.

"School, Home, and Community in Denver, or L. A." (Illustration 50)

Stephen continues this architectural theme by drawing very detailed elevations of a house, school and community. He makes the viewer aware of his knowledge of architectural styles by illustrating elements from classical to postmodern. He also demonstrates his understanding of architectural concepts such as size, weight, part/whole relationships, repetition and shape.

Stephen lives in Denver, Colorado, in a "suburb near a forest" giving the viewer a glimpse of his perceived future life style and social class. He shares his awareness and appreciation of the natural environment. His neighborhood is located adjacent to a forest which offers a view of the mountains as the backdrop. His interview gives a broader perspective to his perceptions of his adult life.

Now I live in a house now that is 1300 square feet. This house is large. I like old classical houses. It has chimneys and an evergreen door. It has a door knocker. I don't like door bells. I live there with my wife and three kids.. There is a big kitchen. I like to cook new and original foods. I'm more interested in creating an idea. The school has an open courtyard and a theatre. I live by the mountains where it is not so densely populated. The neighborhood has huge lawns and is adjacent to a forest. I started to color the buildings, but it took a lot of time to draw them and I ran out of time.

The theme explored in these drawings represents an adolescents' immersion in a passionate interest. His "hobby" is being nurtured by caring

Illustration 50. Home, School Community in Denver or L.A.

Title of your drawing: Home School community in Denver or L.A

Please tell me about your drawing:

When I grew up I want to live in Denver or Los Angeles in a forested neighborhood.

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adults. This is not only another example of Vygotsky's notion of the zone of proximal development, but it also provides an example of the development of intrapersonal intelligence (Gardner, 1983)--spending time alone, getting to know oneself.

Summary Of Themes Across Topics

While examining the findings across the four topics, I interpreted certain themes from the visual symbols, written comments and interviews. These themes are displayed in Figure 8. They represent the insight I gained about adolescents' attitudes, motivations, values and beliefs from an emic perspective. I discovered what 56 adolescents want, what they think about, what they are influenced by, and what they cared about. The construction of these themes represent the realities of these adolescents' perceptions at a particular time. Perception is characterized by fluid, not fixed viewpoints which may be altered, modified, or changed as contexts shift. It is not the trust-worthiness of the themes over time that is significant but the modes of inquiry that led me to infer these themes. The nature of this investigation required me to establish full confidence in adolescents' perceptions so that I could proceed with describing and interpreting their realities.

The themes suggest that these adolescents have an understanding of the issues confronting and challenging contemporary society. How these messages are communicated to them depends on the social context of their experiences.

Figure 8. Themes Across Topics

THEMES*
A. Consumerism/Materialism: (a) materiality/immateriality (b) impulse gratification (c media persuasion **B. Egocentric, or Belief in the Self:** (a) competition (b) freedom (c) autonomy (d) responsibility (e) success (f) self actualization **C. Socio-economic Status:** (a) education (b) income (c) occupation (d) economic security **D. Kinship:** (a) nuclear family (b) extended family (c) peer affiliation (d) community service
E. Future Technology: (a) space: travel, communities (b) artificial intelligence: on-line schools **F. Environmental Threats:** (a) air pollution (b) ozone depletion (b) no-trust society: crime and gangs; high fences (c) graffiti, litter communities (d) overpopulation **G. Inspirational Teachers:** (a) nurturance (b) patience (c) understanding (d) kindness (e) empathy (f) caring (g) interpersonal communication

Theory

In Chapter 2, I discussed the relevance of grounding this investigation in a relationship with theory to give coherent explanations for the meanings embedded in the visual symbols. I have applied these theoretical approaches in the following ways.

First, symbolic interactionism (Denzin, 1989) asserts that humans interpret their experiences based on the meanings these experiences have for them. Though graphical symbols are essentially polysemic and ambiguous, meaning is derived from the interpretation each human associates with the things he/she encounters. Drawings, therefore, are powerful conveyers of perceptions organized by personal knowledge and experience (Polyani, 1958). In this

investigation, I gained insight from the symbolic representation of adolescents' perceptions which offered diverse views of personal knowledge and experience.

Second, Vygotsky's (1978) zone of proximal development implies that positive role models, adults and/or significant others, present in the lives of adolescents, influence, modify and shape their potential level of development. In many of the responses to the drawing tasks, description and interpretation of the visual narratives revealed a positive relationship between adolescents' perceptions of their personal achievement and self confidence and their close associations with caring, inspirational teachers and parents.

Finally, my understanding of how adolescents see and know themselves and how they perceive their relationships with others is based on Gardner's (1983) notions of inter/intrapersonal intelligences. Increased knowledge about the characteristics that describe these intelligences has enhanced my understanding of adolescents' social-emotional development and their style of communication.

The use of these theoretical concepts to add coherence and credibility to the interpretation of drawings augments current literature on the relationship between social science theory and forms of expression in the visual arts (Eisner, 1993, 1994; Gardner, 1980; Gardner & Hatch, 1989).

Visual Symbols As Tools For Communication

The results of examining the visual "stories" told by participants show that drawings are useful as a source of interpretive inquiry when the visual data illustrate observable and explainable content. Drawings are a rich source of descriptive data for interpreting concrete experiences, events, and behaviors. As a data collection technique, drawings--like photography and film--make concrete the experience for viewing (Criticos and Quinlan, 1991). The interpretation of symbols is augmented when sets of drawings by single individuals are examined for continuity of theme. This adds a more complete understanding of an individual's experiences and point of view. Familiarity and knowledge of visual symbols by the drawer enhances the depth of meaning that can be described and interpreted by the viewer. When drawings express abstract themes and topics, other methodological techniques, such as written narratives and interviews, are necessary to interpret the visual symbols. These techniques are also useful for gaining additional information about graphical symbols and developing a more complete interpretation. When conducting interviews, drawings are a useful strategy for eliciting information from individuals who use visual images as precursors to verbal expression.

In summary, this study has investigated drawings as an advanced organizer to verbal thought; as a record of visual thinking; as an alternate form of representing ideas, thoughts and opinions, and, as an approach to learning by

capturing the mind's eye. In the next chapter, discussion of the study and recommendations for future investigations are presented.

Chapter 5
Discussion and Recommendations

Introduction

In this final chapter, I highlight and assess the contributions of this study. I focus on the value of drawings as an expression of adolescent voice and the usefulness of drawings as a methodological technique for visual data analysis.

The composite view I have presented has resulted from an inductive, constructive and generative approach to this inquiry, one that has been assembled by a descriptive, interpretive, open exploration of visual narratives in drawings. As with other case study research I have operated under a bounded context and focused on process and understanding to gain insights into the phenomenon under study. The specific new knowledge and questions I have generated are not a prediction of what will happen across research sites and population groups (Donmoyer, 1990). The importance of this work lies not in the outcome of this study but in the discoveries that shed light on possible avenues of approach to future educational research. Drawings are one form of gaining insight into the conditions that influence learner characteristics. The insights I have shared illustrate the ways in which I have engaged in the inquiry process by listening to the stories told in adolescents' drawings. In a broader sense, drawings have provided an opportunity for students to draw upon their own narrative structures to make sense of their experiences on their own terms, to emphasize ownership of their ideas, and to value personal construction of their knowledge.

Particular Insights

By providing the opportunity for adolescents to express their views through their drawings, I gained particular insights reqarding a) the differences in self perception and personal achievement between the two groups, b) the contradiction between my findings and other research on academic achievement among lower socioeconomic youth, and c) the contrast between the realities of these students' learning environments and studies which present findings on innovative designs that support and enhance learning.

Interestingly, findings of this study showed a contrast in the way adolescents from differing school districts perceive themselves and their perceptions of their personal achievements. Participants from South Heights Middle School, characterized by a transient, lower socioeconomic neighborhood, primarily perceived themselves as learners with school as the vehicle for attaining future professional and economic stability. This was contrary to other research which has indicated that these students were more likely to be "at-risk" due to

lowered expectations and perceived limited opportunities. Participants from North Heights Middle School, characterized by a more stable, middle upper and upper socioeconomic neighborhood, perceived their achievements primarily in relation to organized sports located in the community. South Heights participants' portrayal of their success was strongly associated with academic achievement. These participants also represented themselves more frequently in the home environment involved in hobbies or informal play activities. Similarities between the groups occurred in their perceptions of inspirational teachers--the nurturer, the communicator, and the teacher who made learning fun--as well as in their descriptions of passive, traditional learning environments and the experiences these settings supported. The lack of representation of scenes involving "active learning" raised critical questions, previously reported by other researchers (Getzels, 1974; Mann, 1997; Taylor, 1993a), regarding the persistence of schools built in the 50s and 60s which continue to reflect a factory model of learning. "A rigid form results in restricted functions" (Mann, 1997, p. 1), influencing the interior design of classrooms and the pedagogical approach to curriculum instruction. The drawings of my participants showed "teachers who don't view the classrooms in any other way than in straight rows of desks" (Ibid, p. 1), suggesting that these schools have not been involved in the efforts of educational reform, school renewal, and teacher preparation programs to design environments that support student centered learning. These findings demonstrate that drawings can be used as powerful conveyers of classroom life revealed from the learners' perspective.

Presence of Voice

Inviting adolescents to describe their thoughts, ideas, and feelings about their experiences through the medium of drawings provided the context for me to examine a rather unexplored territory in social science research (Lincoln, 1995). In doing this work, I responded to the postmodernist argument for the presence of personal voice in research. Attention to the voices of teenagers reflected and contributed to the awareness of youth as repositories of change--a powerful paradigm shift from "the view of children as chattel property" (Ibid, p. 88). The role of voice bears on the issues currently confronting research in the social sciences--authenticity, legitimacy, and authority (Denzin & Lincoln, 1994)--and the assumptions educators make about student backgrounds that often go unchallenged (Zaharlick, 1992). As active participants in learning about and constructing views of the social world they encounter (Piaget,1977), it made sense for me to attend to ways in which adolescents actively shape the contexts of their experiences. Most students do not have opportunities to critically think, participate, or analyze beyond what the public school experience provides. Further, though adolescents have been molded by the public media into a sophistication beyond their years, opportunities to hear their voices have largely been absent from educational research. A context to express their views has not been operationalized. This inquiry has provided a context for listening to what adolescents have to say. The commitment has been to the importance of storied

pasts and "to the storied meaning they make of their lives" (Lincoln, 1995, p. 90). Greene (1991) has argued that the arts enable young persons "to open spaces for themselves--spaces for communicating across the boundaries, for choosing, for becoming different" (p. 28). Drawings provided the space for making adolescents' voices visible, distinct, and transformative. My research has only begun to tap the potential of this resource. Further work will be necessary to establish drawings as the context for examining personal knowledge and narrative voice.

Value of Researcher's Competence To The Study

Even more importantly, "hearing" the voices of students in visual dialogue helped me to find my own. Drawings allowed me to utilize my aptitudes. My competence would not have emerged in the literal nor the quantitative. "If intelligence can be defined as a skill in a medium" (Eisner, 1988, p. 8), then the use of drawings to create this research has been a way "to activate wider varieties of human intelligence restrained by conventional types of research" (Ibid, p.8). It is my hope that this study will serve to encourage other novice researchers to conduct their investigations in a manner that most engages and displays their abilities.

My two year immersion in this investigation has been a transformative experience, one that has challenged, provoked, confronted and altered my understanding of drawings to induce an expanded, enhanced view of graphic symbols. I traveled this journey in a state of heightened sensory awareness, supported by Eisner's (1991) claim that this emotional immersion would deepen my understanding and allow for alternative interpretations. This ultimately provided me with multiple possibilities for legitimate questioning of the investigation.

Through an interactive-reactive process (Zaharlick, 1992), I was able to explore and refine the questions that were posed at the beginning of the study. This procedure generated new data which represented the emergence of relationships not previously considered. From this process, I have learned that visual language, unlike the clarity, specificity, and precision of verbal language, is inherently malleable, randomly assigned and uniquely constructed. I have gained understanding of drawings through an ongoing process of analysis that underscored the formidable search for connections between isolated observations of experiences or events. This brings attention to the latitude of interpretation that can misconstrue the drawer's intent. Drawings underscore the "freedom with which the data of experience are transformed into an independent visual interpretation" (Arnheim, 1969, p. 259).

Since symbols are essentially polysemic, reflecting an inherent ambiguity and open interpretive latitude, the challenge was to maintain the clarity of visual communication. The variable nature of drawings has raised my appreciation for the precarious influences of preconceptions, perceptivity and intuition and for the responsibility of expert voice to the integrity of the research process. But it also provided an opportunity to gain an understanding of Eisner's (1997) concept of

"productive ambiguity" or the material presented by an alternative form of representation that is "evocative, generates insights and invites attention to complexity."

> Some alternative forms of data representation result in less closure and more plausible interpretations of the meaning of the situation. The open texture of the form increases the probability that multiple perspectives will emerge. Multiple perspectives make our engagement with the phenomena more complex. (Ibid, p. 8)

I gained respect for the kind of precision that gives little room for conflicting explanations, opposing hypotheses or personal opinion. I also learned to be prepared for surprises--descriptive narratives completely outside of my experience. Zaharlick's (1992) research points to the costs of searching for rich data where the researcher's style of personal reaction and learning ultimately affects the meaning assigned to the data. "Researchers need to be keenly aware of and take into account their theoretical, methodological, and personal preferences and biases to the extent that they may affect research processes and outcomes" (p. 124). The perils of working with the ambiguity of drawings heightened my awareness of the effects of conferring my own idiosyncratic meaning to the data.

Usefulness of Drawings as a Methodological Tool

The study of drawings made adolescents and the social situations in which they engage come alive in a way no other form of representation could have captured. "Facts described literally are unlikely to have the power to evoke" (Eisner, 1997, p. 8). Drawings were the tool to enhance understanding, to illuminate the message, and to "contribute to empathic participation" (Ibid, p. 8) in the lives of adolescents. The most important thing about drawings was the obvious: they showed what things, places, and people look like from the insiders' perspectives. Moreover, the qualities of particularity and dimensionality which characterize drawings (conditions which emerge from seeing and knowing) conferred a sense of being "real". These conditions are not rendered by abstractions. By interpreting the attitudes, beliefs, and behaviors represented in the visual narratives, I gained an understanding of adolescents' socio-cultural reality. The drawings presented believable situations for understanding the expectations and constraints motivating their behaviors.

The study has shown that graphical symbols are firmly rooted in the insider's language. Drawings communicate in the local language of the people being investigated (Spradley, 1980). They are a form of representation for viewing the particular, for manipulating the images in the "mind's eye" (Coles, 1992) into conceptual form. Therefore, the concepts and meanings of participants permeate the description and "give one a profound sense of being on the inside of another way of life" (Wolcott, 1994, p. 23). This has required a sensitivity towards the discovery of another person's point of view and a focus on

discovery rather than on development. My efforts have focused on translation competence or the "flow" (Wolcott, 1994) of native concepts and meanings throughout the description. This provides a model for other researchers to imitate to effectively revision this approach to drawings.

Value of Drawings For Visual Communication

In doing this work, I encountered the composite experiences of cultural scenes which uncovered the particular signs and symbols used for communication (Arnheim, 1969) by a cultural group. I gained an "eye witness account of certain conventions [4]--symbols which stand in the place of something else--which describe certain characteristics, distinguishing features and material objects of a culture group. Like documentary films and videos, the visual record of these conventions provided a descriptive (though partial) account of these adolescents' sociocultural system. And also like the qualities of these media, drawings were at times ancillary to full-blown verbal text, while in other cases they were left to stand nearly for themselves (Caulfield, 1991). Future research can build on this study to examine the sociocultural changes among adolescents over time as well as provide data for cross-cultural comparisons, adding to the breadth and depth of possible interpretations of the data.

This study on drawings as a medium for visual communication has indicated a need for future work in this area to lend support for the use of drawings as an instructional strategy and as a means of fostering literacy in an increasingly visually dominated society. The demands made by the advanced proliferation of artificial intelligence, computer and electronic technology and the persuasive power of advertising have influenced approaches to teacher and curriculum instruction. Increasingly, visual images are being used to convey messages that once were dominated by written text. In the same way that students are instructed to achieve verbal literacy, so should they be prepared to demonstrate competency in graphic symbols. Since pictures and words vivify one another's essential nature, communication can be enhanced by this partnership. Moreover, fluency in both verbal and visual languages will allow individuals to choose the language which they feel more directly conveys the message, as well as send the message in the language that is most appropriate to their style of communication.

Merits Of The Study

Overall, this study strengthens the research platform upon which many innovations are constructed to improve educational and school practices. As Ogbu's (1974) study pointed out,

> People who live and work in close proximity often understand very little about even the most basic conditions of each other's lives. Lacking this

[4] agreement of the referent has a narrow range of variability in its interpretation.

> information, they often rely on stereotypes and "common sense" assessments of the other's basic living conditions. These stereotypes in turn make it all the more difficult for people to accept information that might contribute to better understanding. (Zaharlick, 1992, p. 123)

The unrelenting structure of traditional classroom instruction has kept the most basic and familiar techniques at the forefront of professional development programs and on-going teacher training. Drawings continue to exist in the arts and crafts area and are treated as a filler or 'sponge' activity due to the lack of cross-disciplinary study between the arts and core curricula, the lack of expertise at post secondary institutions to include visual literacy as an integral component of teacher education, and the lack of focus on drawings as an alternative demonstration of knowledge. The curriculum used in schools defines the opportunities students have to learn how to think within the media that schools provide (Dewey, 1934). This significantly influences the kinds of meanings that students can learn and represent. The discrepancy between what teachers assess as important for students to know, and the knowledge that students bring with them to the classroom threatens teacher efficacy and student academic achievement. This study has demonstrated that students are willing to communicate visually when given an opportunity to do so. The large percentage of participants in this study who demonstrated competency at expressing their perceptions or who used drawings as visual prompts to organize verbal expression of ideas, emotions, and thoughts, indicates the need to create alternative opportunities for students to understand and demonstrate knowledge in the classroom. That is, learning to modulate visual images and learning to logically use language require different forms of thinking.

> Culture makes available to the developing human an array of forms of representation through which the transformation of consciousness into its public equivalent is created....By selectively emphasizing some forms of representation over others, schools shape children's thinking skills and in the process privilege some students and handicap others by virtue of the congruence between their aptitudes and the opportunities to use them in school. (Eisner, 1993, p. 7)

Ultimately, the goal is to provide learners with experiences that enhance their understanding of concepts and teachers with the skills to assess this presentation of knowledge. For drawings to become a valid tool for instruction, emphasis must be placed on visual education or the development of visual thinking (Armstrong, 1994; Bassey, 1996; Bennett, 1986; Boughton, Eisner, and Ligtvoet, 1997; Eisner, l976, 1994; Flood, Brice Heath and Lapp, 1997; Kantner, 1993). Also,

because of the influence of new technology, teachers need a greater understanding of visual language in order to be fluent communicators with youth who are socialized by this technological environment and whose profile for learning has been altered by the technological experience. Professional development programs in teacher education should incorporate courses that show teachers how to use visual symbols as a means to demonstrate and assess student acquired knowledge. This is specifically important for teachers of English language learners whose non-traditional modes of communication have identified them for special education services or "at-risk" programs, rather than as individuals whose learning styles and intelligences require alternate forms of instruction for academic achievement (Gardner, 1983; Hall, 1989; Longstreet, 1978; Young, 1990). Research in this area should commit to developing the analytic tools necessary to bridge communication between standardized conventions of learning and a society increasingly dependent upon visual icons for dialogue.

Though I gained understanding from the visual symbols which were observable and explanatory, the study is open-ended to the degree of interpretation that might have occurred had participants' received prior training in visual symbols and schematic drawings. I was aware of the potential benefits derived from instructing participants on visual symbol communication prior to conducting the study. However, I was not prepared to risk any possible modifications to the expression of their perceptions due to my instruction. As always, learning is informed by experience. Future researchers using drawings as a method of data collection should consider training participants as a preparatory stage for conducting their study to enrich the description and interpretation of the visual narratives.

Within the broader perspective of this inquiry, learning from the data resulted in certain findings related to other literature (Brownlee, 1996; Weissbound 1966; Wubbels et al, 1997). Interpretation of adolescents' perceptions revealed certain conditions that youth need in order to prosper. Factors identified by these researchers include a continuous relationship with a consistently attentive and caring adult, opportunities for real achievement, a strong friendship with other adults and peers, welcoming schools, extracurricular activities, caring for others, helping out in communities, significant personal responsibility, and knowing they are valued. Participants in this study described these conditions in their visual narratives. Further, the presence of these conditions raised questions beyond the scope of this study regarding the type of experiences that could potentially identify at-risk youth and how these factors could be accessed through drawings in a similar school-based inquiry rather than the traditional therapeutic setting.

This study also provided me with hindsight regarding the unanticipated limitations of the research design I created. When entering the 'code mines' for data analysis, I experienced what Eisner (1980) has referred to as the separation of the conceptualization of ends from the execution of means. I became aware of my detachment from the data--the lack of a reference point--that served to magnify my absence from the research site rather than objectify my position for

impartial analysis. My failure to establish residence in the group's territory (Zaharlick, 1992) eliminated the potential knowledge gained from observation and access to specific questions for interviewing. I also missed the experience of "first hand observation" which may have given me insight into how these adolescents diverged from the idealized model of behavior they presented through their drawings and interviews (Georges & Jones, 1980). Additionally, the use of interviews, which I originally regarded as supportive documentation, became primary sources for information, for understanding the link(s) between a set of drawings, and a means to cross-check the data gathered from the drawings. Since I was the only interpreter of the phenomena, cross-checking enhanced the scope, density and clarity of constructs I developed during the analysis. Interviews also assisted in correcting potential biases.

Another aspect of this study that has received the attention of other research (Greene; Wubbels et al, 1997) was teachers' interpersonal skills "crucial to creating and maintaining a positive working climate" (Wubbels et al, 1997, p. 82). This was made apparent in this study from interviews which focused on students' drawings of inspirational teachers. "Essentially, effective teachers have to be excellent communicators as well as fine technicians" (Ibid, p. 82). Perceptions of inspirational teachers from this study corroborated other research (Greene, 1986; Noblit, Rogers & McFadden, 1995; Noddings, 1992). Specifically, the data shed light on the responsibility of the teacher role.

> To help build the kind of self esteem that is necessary for learning, teachers must accept the cultural, linguistic and historical experiences that students bring to the classroom, thereby allowing students' to feel that their identities are validated. (McCaleb, 1994, p. 41)

To the extent that educational researchers believe that understanding beliefs, attitudes, and behaviors of sociocultural groups leads to the design of effective strategies for educational improvement, this study offers one approach to providing valuable new insights that contribute to educational practice. Providing rich pictorial descriptions by members of contrasting school communities made differing needs--created by cultural orientations and perspectives--visible. This deterred me from viewing values and behaviors as the same and from constructing a generic perspective that silenced individual voice. Instead, differing conceptual viewpoints offered new ways of looking at needs from different perspectives. By gaining insight into the particular characteristics of school communities, I was able to make interpretations that were appropriate to the unique conditions perceived by each school's members.

Finally, the combination of images and text captured meanings that have been impossible to provide in pictureless journals. This format may help to gain the attention of an audience withdrawn from the traditional scholarly discourse of academic communication. "Visual images may be a highly serviceable means of

facilitating communication with the world outside the scholarly cult; a vehicle for undermining aura and democratizing our ritualized practices" (Caulfield, l991, p. 7). The practice of using drawings to inform or construct research is one way of encouraging communication across disciplines. Drawings provide the social context for Socratic questioning and dialogue ordinarily removed from didactic verbal discourse. The encounter with the visual image through the critical lens of differing disciplinary philosophies can offer opportunities for new forms of knowledge to emerge as well as enhance traditional ways of understanding.

Concluding Comments

As the writing of this study comes to a close, I am aware of the diversity of questions that have been raised by this investigation. I view the emergence of these questions as catalysts for change in research approaches that pay attention to the voices of adolescents. This study offers future researchers a frame to explore: (a) influence of media--advertising, television, film, music, computers, and the internet--on adolescents' values and beliefs, (b) influence of parents as role models for adolescents' success, (c) influence of learning environments on adolescents' academic achievement, and (d) influence of the women's movement on adolescents' perceptions of self (supported by the results of this study). These and other investigations can challenge current traditional modes of inquiry by making adolescents' views public and by establishing drawings as a valid methodological technique for educational research. Further, this study offers future researchers the possibility of using drawings as a way to call attention to policy decisions insensitive to students' perceived needs.

ADDENDUM

Researcher's Drawings:
A Visual Monograph of the Dissertation Process

There were many times, during the study, in which words were a shallow substitute for expressing the profound character of my experiences. These were coupled with a sense of heightened urgency to document the relationship between myself as visual artist and myself as researcher. Further, the dissertation process linked me to the agendas set by the graduate school, my dissertation committee, and the public school system. These agendas played havoc with my own perspective of this work and the integrity of the research that I saught to maintain. The need to express these moments---to observe and capture my perceptions of these realities-- parastically clung to my visual memory. The drawings were produced as visual "short stories"-- rendered with abandonment from the dogmatic guidelines set by scholarly research and the protocol for dissertation writing. I have executed these drawings to practice the freedoms of artistic expression, to express the depth of my personal encounter with this study, and to give an important ceremonial ending to this research.

Finally, because my study focused on drawings as an investigative tool to gain insight into the realities of adolescents' worlds, drawings became a way for me to personally express the process, or scope and sequence, of the natural occuring events that impacted my perceptions as researcher, the collection and analysis of data, and the formal writing of the dissertation. The drawings I have included have been rendered to give thick description to my reflections on the dissertation process. The creative act of 'doing' the drawings symbolically represented a link for me with the drawing experiences of my participants, and provided a way for me to experience a membership role in the culture of my participants. A symbiotic relationship between the participants and myself, as a result of the shared experience of drawing, resulted in my own heightened state of sensory awareness and an intensified appreciation for the quality of voice expressed in the drawings.

Acting in the dual roles of participant and observer proved to be curious, enlightening, and at times, exhausting. The scenes I have portrayed were not anticipated, expected events. I intuitively drew what my mind marked significant at the times of their occurrences, and what memory stored for recall. Indeed, several of the events, once sketched, were eliminated because the image did not fit the physical composite of what I had encountered.

My visual perceptions of certain experiences created intense images for self-reflection. These images were paramount to 'getting on' with the process of dissertation writing. That is, in order to move to another step on this journey, I identified the event with a drawing. The collection of drawings therefore represent a running account of the stages I experienced that marked significant passages through the dissertation process.

The Social Scene At The Approval Of The Research Proposal

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My drawings have brought coherence and unity to the research. Through my personal interpretation, I have gained an "empirical" view of the thoughts and feelings that have underscored particular events and behaviors which remain the essence of the dissertation experience. The drawings also serve to interpret the text. Where my verbal explanations have articulated the analysis of the patterns, the drawings have contributed to the synthesis of those patterns. The notion of transmediation (Siegel, 1984)--transferring communication from verbal to visual media--has deepened my comprehension of my experiences and given unique perspective to the importance of documenting my voice in the experiences. The drawings give an "eyewitness" account to the dissertation process beyond the conceptual thoughts captured by the narrative prose. Their significance is as a form of expression. Montessori (in Read, 1958) captures the essence of this purpose, "Drawing comes to satisfy a need for expression...and almost every idea may seek expression in drawing" (p. 113). For me, the drawings are a valuable heuristic to expressing the depth of this experience.

I have singularly journeyed the search for credibility which Eisner describes as coherence, insight and instrumental utility (1991). "Since meaning in the context of representation is always mediated through some form of representation, each form of representation has a special contribution to make to human experience" (Eisner, 1995, p 19). It is my hope that the act of producing these drawings will encourage doctoral candidates to pursue alternative acts of meanings and that my voice as expressed by my drawings will contribute to the growing body of knowledge on dissertations that represent alternative formats for the nuances of dissertation writing.

The Complusive Search For The Literature

Posed And Ready For The Liberation of Unconscious Thought

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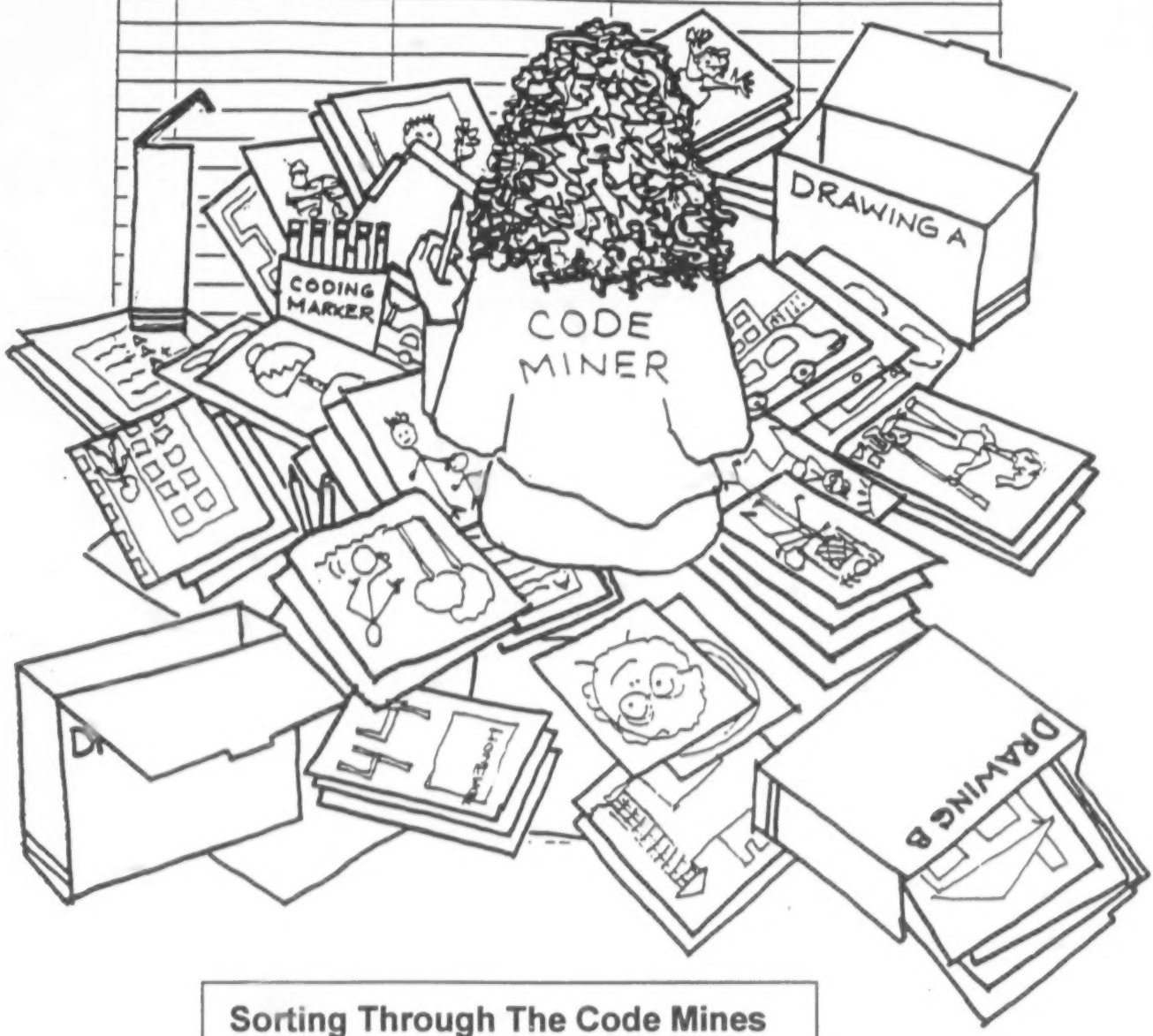
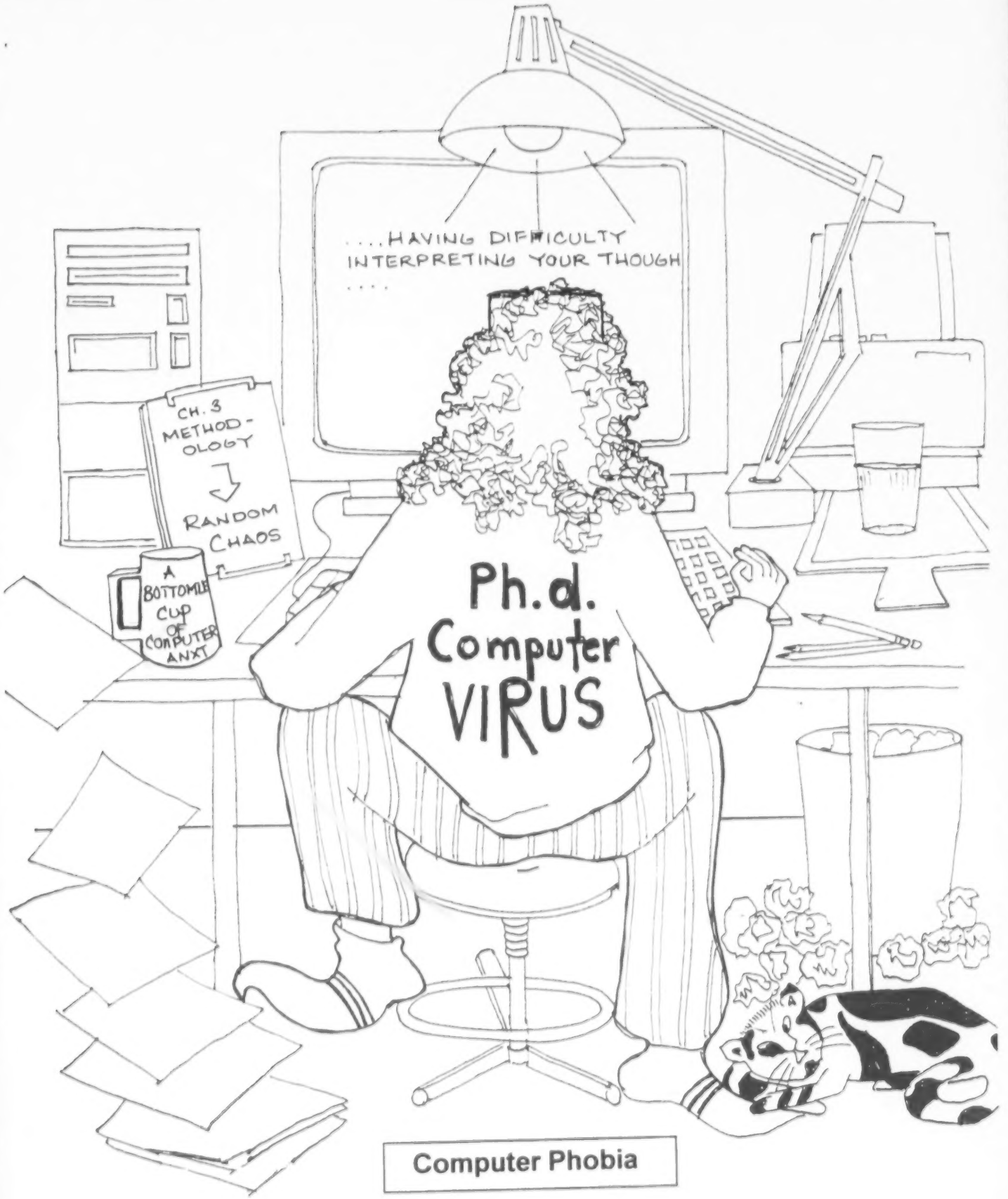
Themes

School_____

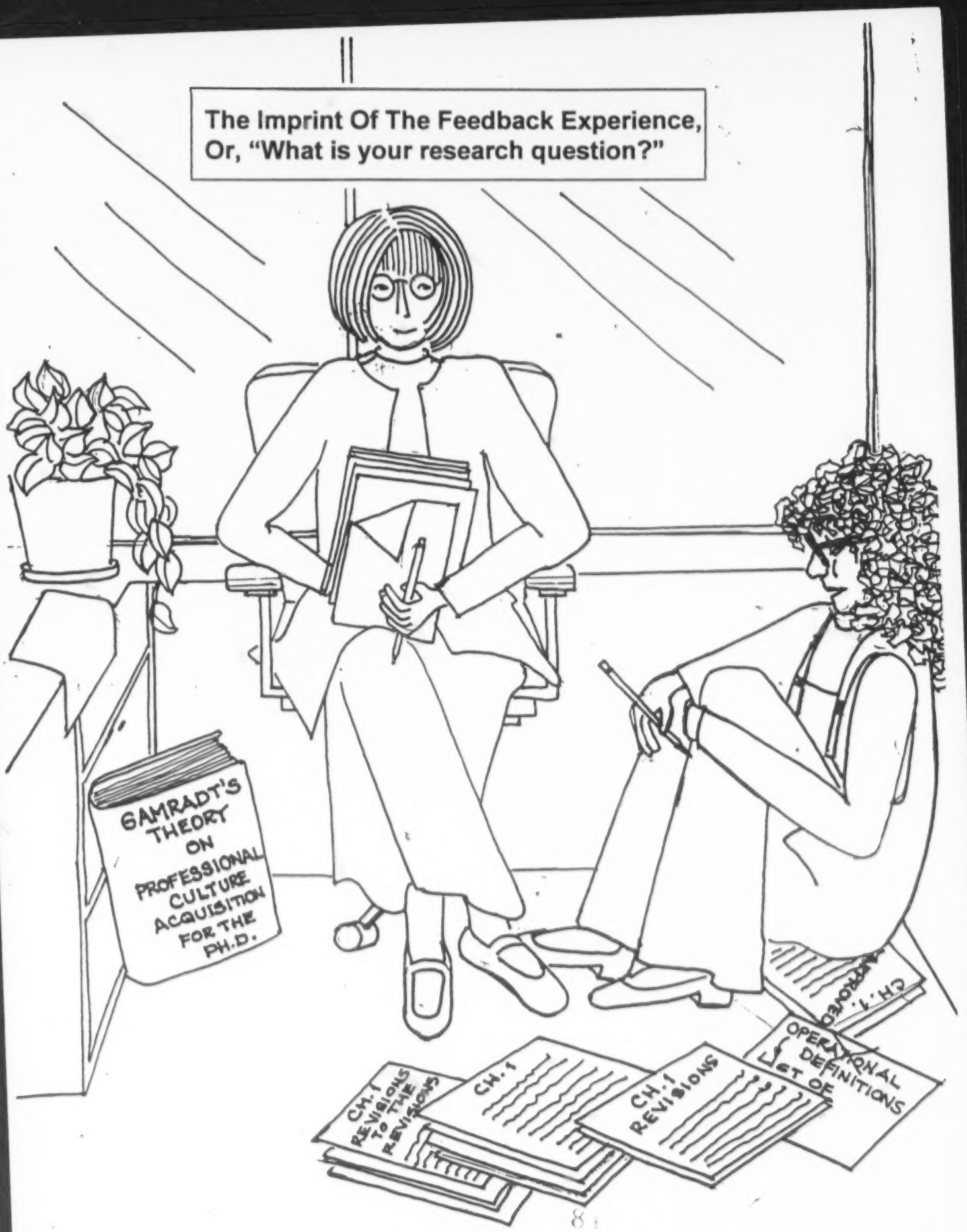
No.	Drawing A	Drawing B	Drawing C	Drawing D



Sorting Through The Code Mines



Computer Phobia


The Imprint Of The Feedback Experience,
Or, "What is your research question?"
GAMRADT'S THEORY ON PROFESSIONAL CULTURE ACQUISITION FOR THE PH.D.
CH. 1 REVISIONS TO THE REVISIONS
CH. 1
CH. 1 REVISIONS
OPERATIONAL DEFINITIONS
SET OF

drawing is great for my imagination
drawing makes me feel like I know stuff about the world.
oh great! i forgot my sketch pad
ms. chula says looking upside down raises awareness

Joining Theory With Practice: my classroom, where the reality of drawings make sense.

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